

## **Historic, Archive Document**

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VOL. XVII. NO. 15.

AUG. 1, 1899.

PEACE ON EARTH & GOOD WILL TOWARD MEN



CLEANING  
IN

BEE CULTURE

DEVOTED  
TO

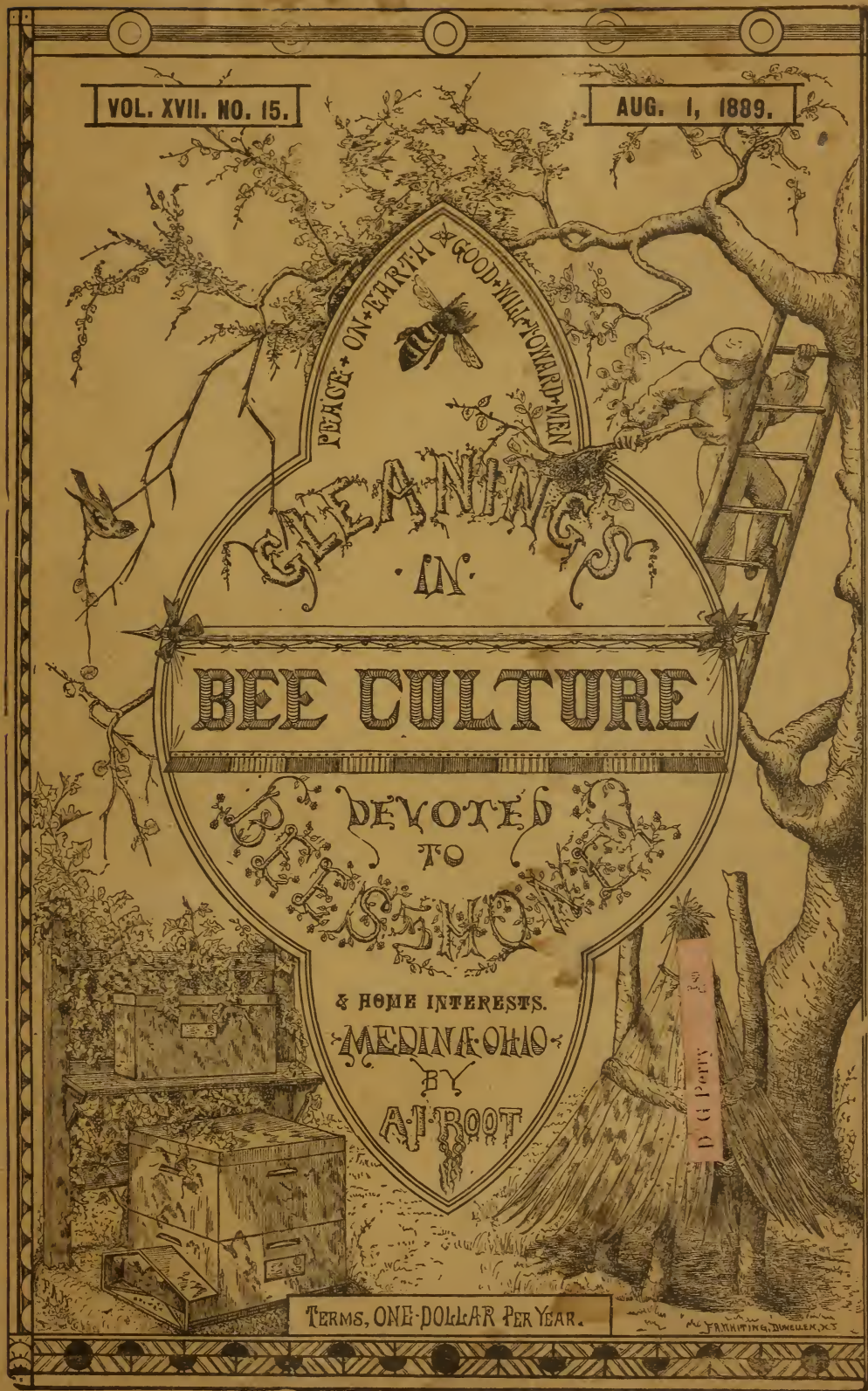
& HOME INTERESTS.

MEDINA, OHIO

BY

AL ROOT

TERMS, ONE DOLLAR PER YEAR.



ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.



## GLEANINGS IN BEE CULTURE.

### ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. Patent-medicine advertisements, and others of a like nature, can not be inserted at any price.

#### Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions or more, 20 per cent; 24 insertions or more, 25 per cent.  
On 48 lines (½ column) and upward, 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, or more, 25 per cent; 24 insertions or more, 33¼ per cent.  
On 96 lines (whole column) and upward, 1 insertion, 10 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, or more, 33¼ per cent; 24 insertions or more, 40 per cent.  
On 192 lines (whole page), 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions or more, 40 per cent; 24 insertions or more, 50 per cent.

No additional discount for electrolyte advertisements. A. I. Root.

### CLUBBING LIST.

We will send GLEANINGS—

With the American Bee-Journal, W'y	(\$1.00)	\$1.75
With the Canadian Bee Journal, W'y	(1.00)	1.75
With the Bee Hive,	( )	1.20
With the Bee-Keepers' Review,	( 50)	1.40
With the British Bee-Journal,	(.62)	3.25
With all of the above journals,		6.40
With American Apiculturist,	(\$1.00)	1.70
With Bee-Keepers' Advance and Poultryman's Journal,	( 50)	1.45
With American Agriculturist,	(\$1.50)	2.25
With American Garden,	(2.00)	2.60
With Prairie Farmer,	(1.50)	2.35
With Rural New-Yorker,	(2.00)	2.90
With Farm Journal,	( 50)	1.25
With Scientific American,	(3.00)	3.75
With Ohio Farmer,	(1.00)	1.90
With Popular Gardening,	(1.00)	1.85
With U. S. Official Postal Guide,	(1.50)	2.25
With Sunday-School Times, weekly,	(2.00)	2.25
With Drainage and Farm Journal,	(1.00)	1.75

[Above Rates include all Postage in U. S. and Canada.]

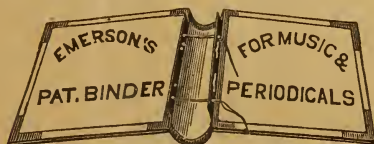
### FLAT - BOTTOM COMB FOUNDATION.



High side-walls, 4 to 14 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS.

5tfid Sole Manufacturers, SPROUT BROOK, MONT. CO., N. Y.



You can not look over the back No's of GLEANINGS, or any other periodical with satisfaction, unless they are in some kind of a binder. Who has not said—"Dear me, what a bother—I must have last month's journal and it is nowhere to be found?" Put each No. in the Emerson binder as soon as it comes, and you can sit down happy, any time you wish to find anything you may have previously seen, even though it were months ago.

Binders for GLEANINGS (will hold them for one year) gilt lettered, for 60 cts.; by mail, 12 cts. extra. Ten, \$5.00; 100, \$45.00. Table of prices of binders for any periodical, mailed on application. Send in your orders. A. I. ROOT, Medina, Ohio.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

### Untested Queens

FOR \$1.00 FROM JULY 1ST TILL NOV. 1ST.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with \*, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Col. Co., Pa.	7tfid89
*Paul L. Viallon, Bayou Goula, La.	7tfid89
*S. F. Newman, Norwalk, Huron Co., O.	7tfid89
*Jos. Byrne, Ward's Creek, East Baton Rouge	
	7-4tfid Par., La.
C. C. Vaughn, Columbia, Tenn.	21tfid88
Wm. L. Ashe, Edwardsville, Mad. Co., Ill.	11tfid88
J. M. Jenkins, Wetumpka, Ala.	9tfid89
*Oliver Hoover & Co., Snyderstown, Northum-	
	5-15d berland Co., Pa.
Abbott L. Swinson, Goldsboro, Wayne Co., N. C.	5tfid
C. R. Mitchell, Ocala, Marion Co., Fla.	9tfid89
E. Burke, Vincennes, Knox Co., Ind.	9-8-1890
R. F. Holtermann, Brantford, Ont., Can.	11tfid89
H. L. Hutchinson, May, Tuscola Co., Mich.	15d
N. A. Knapp, Rochester, Lorain Co., O.	15tfid89
W. E. Crayton, Lima, Allen Co., O.	15tfid89
D. A. McCord, Oxford, Butler Co., Ohio.	11-21 '89
*J. Mattoon, Atwater, Portage Co., Ohio.	13tfid89

### Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La	7tfid89
C. W. Costellow, Waterboro, York Co., Me.	7tfid89
R. B. Leahy, Higginsville, Laf. Co., Mo.	21tfid88
J. M. Jenkins, Wetumpka, Ala.	9tfid89

Oldest Bee Paper in America—Established in 1861.

### AMERICAN BEE JOURNAL,

16-page Weekly—\$1.00 a year.

Sample Free. THOMAS G. NEWMAN & SON,  
925 West Madison Street, Chicago, Ill.

### BEE-KEEPER'S GUIDE.

Every farmer and bee-keeper should have it. 15th thousand just out; much enlarged, beautifully illustrated, and fully up to date. It is both practical and scientific. Price \$1.50. To dealers, \$1.00 by mail to any address. In 100 lots, 50% off by freight. 17-15d

Address A. J. COOK,  
Agricultural College, Mich.

In responding to this advertisement mention GLEANINGS.

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## SPECIAL NOTICES.

### HONEY QUEENS.

There has been such a call for honey queens from that imported queen spoken of on page 508, June 15, we have decided to sell her daughters at the following rates: Untested, \$1.50; tested, \$3.00; select tested, \$4.00. The mother of these queens still sustains her former reputation, and her bees prove conclusively that gentleness and energy make a successful combination. We also have one other imported queen whose bees are about as gentle and as good workers as the other one. Her daughters will be sold at the same price. Her queens, if any thing, are a trifle yellower. Be sure to mention, in ordering, that you want a "honey queen," otherwise we shall send you our regular queens.

### SEEDS AND PLANTS SUITABLE FOR AUGUST PLANTING.

Asparagus, Palmetto. Oz., 10c; lb., \$1.50.  
 Beans, Dwarf German wax. Pint, 10c. By mail, 8c extra.  
 Beets, Eclipse. Oz., 5c; lb., 60c.  
 Carrots, Early French Forcing. Oz., 10c; lb., \$1.00.  
 Celery-plants, Henderson's White Plume, Golden Self-blanching, Golden Dwarf, or Boston Market. 10 plants, 5c; 100, 40c; 1000, \$3.00. If wanted by mail, add 5c for 10, or 25c for 100.  
 Corn, Corey's Extra Early. Half-pint, 5c; quart, 15c. By mail, 12c per qt. extra.  
 Cress, or pepper-grass. Oz., 5c; lb., 50.  
 Cucumbers, Early Frame, Nichol's Medium Green. Oz., 5c; lb., 60.  
 Grand Rapids lettuce, Henderson's New York, or Boston Market. Oz., 15c; lb., \$2.00.  
 Onion, Mammoth Silver King. Packet, 5c; oz., 20; lb., \$2.50.  
 Onion-sets, Winter or Egyptian. Qt., 10c; pk., 75c. By mail, 10c per qt. extra.  
 Parsley, Fine Curled or Double. Oz., 5c; lb., 50.  
 Alaska peas. Pt., 10c. By mail, 8c extra.  
 American Wonder peas. Half-pint, 10c. By mail, 4c extra.  
 Radishes, Scarlet Globe, Lady Finger, Chartier. Oz., 5c; lb., 60c.  
 Radishes, fall or winter. Oz., 10c; lb., \$1.00.  
 Spinach, Extra Curled. Oz., 5c; lb., 35.  
 Turnip, White Egg, or Purple Top White Globe. Oz., 5c; lb., 40c.

### STRAWBERRY-PLANTS.

Of these we have a plenty of extra nice Jessie or Sharpless; 10c for 10; 75c per 100; \$5.00 per 1000. Of Bubach we have also a good supply of nice plants. Prices are double those above. All strawberry-plants sent by mail at an additional expense of 3c for 10, or 15c for 100. I would advise that strawberry-plants be set where they can be shaded, unless we have plenty of rain. If the weather is exceedingly dry, they may require watering as well as shading to save them. A good watering, however, just before the plants are covered with a good

mulch of straw, leaves, or swamp grass, or something of that sort, will usually take them through the most severe drouth. Orders for strawberry-plants are liable to be delayed unless we have rains frequently.

## KIND WORDS FROM OUR CUSTOMERS.

### OUR HOMES.

I wish I could take you by the hand and have a good long talk with you. Our Homes does me more good than any sermon I ever heard. I would not do without GLEANINGS for almost any thing. Our Homes is written in such simple words that almost any one can understand it; and as I am not a man of "over-high" education it just suits me exactly. May you live long, and keep on doing good.  
 Carpenter, Ill., June 11, 1889. Ed. E. SMITH.

### ONE WHO LOVED GLEANINGS.

How lonely is our home! Father died the 24th of May, aged 72 years. There are only four of us at home—mother and two sisters and myself. Father had been failing for the last two years. He was always a lover of bees, and he was always a great lover of GLEANINGS. He could not work, but would watch for GLEANINGS. The May 15th number came too late for him to see it. It came two hours before he passed away. He asked, every time we went to the office, if we got GLEANINGS. He could read some, and it passed away the time for him. Oh, how lonely it is without father! Almost his last words to me were to tell how he wanted me to fix some bees for a neighbor who wanted some. Father had read GLEANINGS for years, and we still expect to read it until we too are called up higher to meet him.  
 Ritchie, W. Va., June 11, 1889. MARY E. COKELEY.

### ONE WHO IS NOT A CHRISTIAN, BUT YET LOVES THE FRUITS OF CHRISTIANITY.

It does me good all over in spots as large as a blanket to see the kind, conscientious, and prompt manner in which you do business. I appreciate and love people who wear their religion every day, as well as Sunday. Although I belong to no church, I try to do right and be honest. I like genuine, honest, and religious people, but I detest hypocrites.  
 W. A. CARTMELL.

Crowley, Texas, June 24, 1889.

[I am sure you have too high an opinion of your humble servant. If you lived near by me, and could see me day by day, very likely your ideal friend would tumble to pieces, and you would find he was about after the fashion of mankind in general, after all. It is Christ's spirit, and that alone, that can lift us above earth and things earthly.]

### HOW TO FIX TOMATO-PLANTS DURING A SNOW-STORM.

The 13 Ignoutums arrived in splendid condition. They are extra good strong plants, and now all stand upright, having scarcely wilted. Considering both strength and weight, I think the wooden box in which they were packed is as good as can be made for mailing purposes, and that you will have but very little if any complaint of damaged plants packed as these were. They came Tuesday; and fearing a frost I delayed setting them that day. Next morning the thermometer stood at 32°, and I waited until after dinner, when it commenced to rain, with the wind in the east, and the thermometer at 37°. Thinking that the wind would shift to the south, I set out the plants and went to work in the shop. At 3 p. m. my wife called and asked if I knew that it was snowing. Looking out, every thing was seen whitening with snow, which came as if it meant business. I ran and got 13 Simplicity covers, and put them over the Ignoutums, in a hurry. The snow fell fast and thick until 7 p. m., when it changed to rain, with the thermometer at 32°, at which point it had been four times before within a week.  
 Almont, Mich., June 3, 1889. JAS. H. ANDREWS.

THE REVISED LANGSTROTH, and DADANT'S FOUNDATION.  
 See advertisement in another column.



## DADANT'S FOUNDATION

Is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury, Nebraska; B. J. Miller & Co., Nappanee, Ind.; E. S. Armstrong, Jerseyville, Ill.; E. Kretchmer, Coburg, Iowa; P. L. Viallon, Bayou Goula, La.; M. J. Dickason, Hiawatha, Kansas; J. W. Porter, Charlottesville, Albemarle Co., Va.; E. R. Newcomb, Pleasant Valley, Dutchess Co., N. Y.; D. A. Fuller, Cherry Valley, Ill.; J. B. Mason & Sons, Mechanic Falls, Maine; G. L. Tinker, New Philadelphia, O.; Jos. Nysewander, Des Moines, Ia.; C. H. Green, Waukesha, Wis.; G. B. Lewis & Co., Watertown, Wisconsin; J. Mattoon, Atwater, Ohio, Oliver Foster, Mt. Vernon, Iowa; C. Hertel, Freeburg, Illinois; Geo. E. Hilton, Fremont, Mich.; J. M. Clark & Co., 1409 15th St., Denver, Colo.; Goodell & Woodworth Mfg. Co., Rock Falls, Ill.; J. A. Roberts, Edgar, Neb.; E. L. Gould & Co., Brantford, Ontario, Canada; J. N. Heater, Columbus, Neb.; E. C. Eaglesfield, Berlin, Wis.; C. D. Battey, Peterboro, Mad. Co., N. Y.; G. K. Hubbard, Fort Wayne, Ind., and numerous other dealers.

We guarantee every inch of our foundation equal to sample in every respect. Every one who buys it is pleased with it.

Write for free samples, and price list of bee-supplies and specimen pages of the new

## REVISED LANGSTROTH BOOK,

Edition of 1889.

3tfdb

CHAS. DADANT & SON,  
Hamilton, Hancock Co., Illinois.

In responding to this advertisement mention GLEANINGS.

**COLONIES** Italian bees at \$5; tested Italian queens at \$1; untested (young laying) Italian queens at 60c. Address OTTO KLEINOW, 150 Military Avenue, Detroit, Mich.

## PURE ITALIAN QUEENS.

50 tested queens now ready at \$1.00 each; 100 untested queens, every 3 days, at 70c each; 3 for \$2.00. A few selected breeding queens at \$2.00 each. All bred from imported and best selected home-bred queens. Safe arrival by mail guaranteed.

D. G. EDMISTON,

15tfdb

Adrian, Lenawee Co., Mich.

In responding to this advertisement

## APIARIAN SUPPLIES CHEAP.

BASSWOOD V-GROOVE SECTIONS, \$.75 to \$.75 PER M. SHIPPING-CASES VERY LOW. SEND FOR PRICES.

GOODSELL & WOODWORTH MFG. CO.,  
3tfdb ROCK FALLS, ILLINOIS.

In responding to this advertisement mention GLEANINGS.

## SECTION PRESS.

PRICE \$2.00.



For putting together one-piece sections. Every section square, and a smart boy or girl can fold 100 in six minutes. Try one and you will never regret it. Send to your supply dealer or to 5-16db

WAKEMAN & CROCKER, Lockport, N. Y.

In responding to this advertisement mention GLEANINGS.

UNTESTED Italian queens, 75 cts. each.

M. ISBELL, Norwich, Chenango Co., N. Y.

## STRAWBERRY PLANTS

By mail at 75 cts. per 100. Varieties, Jessie, Jumbo, Captain Jack, and Crescent Seedling.

Address JACOB GUISINGER, Ada, O.

In responding to this advertisement mention GLEANINGS.

A NEW BOOK ON BEES, and DADANT'S FOUNDATION.

See advertisement in another column.

## JAS. F. WOOD, NORTH PRESCOTT, MASS.,

Will now ship by return mail, his warranted queens to any address, for 75 cts. each, or \$8.00 per dozen. Single queen to Canada, 85 cts. Being isolated from all black bees I am able to warrant every queen purely mated, and safe arrival guaranteed. Every queen is of good shape, and all have filled several combs with eggs before being shipped. I will replace every queen that hatches a black bee with a select tested queen, worth \$2.00.

If you want the best queens promptly, send me your orders. I am bound to suit you. Address as above. 13tfdb

**FOX-HOUND PUPPIES FOR SALE.**—First-class stock. Address C. A. WOOD, 13tfdb Tarrytown, Westchester Co., N. Y.

## LITHOGRAPH LABELS

In 12 Colors, at \$2.00 per 1000.

The 12 colors are all on each label. They are oblong in shape, measuring  $2\frac{1}{2} \times 2\frac{1}{2}$ . They are about the nicest labels we ever saw for glass tumblers, pails, and small packages of honey. We will mail a sample, inclosed in our label catalogue, free on application, and will furnish them postpaid at the following prices: 5 cts. for 10; 35 cts. for 100; \$1.20 for 500; \$2.00 for 1000. A. L. ROOT, Medina, O.

### A STEP FORWARD TOWARDS SUCCESS!

After carefully studying the demand of consumers and dealers, and selecting of the many styles of packages for comb honey the very best and the most attractive, we have now prepared an improved paper carton combined with a comb-protector. Honey, put up in these packages, will be bought in preference to all others at highest market price. Our patent comb-protector will prevent leakage and soiling of sections. Comb honey can be easily and quickly put up in our cartons. These advantages and the small cost of our cartons and comb-protector will save labor, time, money, and honey. Strohmeier's patent comb-protectors require  $\frac{1}{8}$  inch of the inside height of crates. Price list and sample carton sent free on application.

F. G. STROHMEYER & CO.,

WHOLESALE HONEY MERCHANTS,

122 WATER STREET, NEW YORK.

No. 1, \$2.00; No. 2, \$1.75; No. 3, \$1.50 | Knife  
No. 4, 1.25; No. 5, 1.00; No. 6, 65 | \$1.15

On receipt of the above price

## SMOKERS and KNIVES

will be sent postpaid. Descriptive circulars will be sent on receipt of request card.

Bingham & Hetherington Smokers and Knives are staple tools, and have been used ten years without complaint, and are the only stovewood burning clear smoke bee-smokers; no going out, no vexation. Address

BINGHAM & HETHERINGTON, Abronia, Mich.

In responding to this advertisement mention GLEANINGS.

## WANTED! TO REDUCE STOCK!

For the next 30 days we will sell untested Italian queens, at 55 cts. each; 6 for \$3.00; 12 for \$5.75. Tested, \$1.00 each. Bees for sale cheap. 14-15d

R. B. LEAHY & CO., Higginsville, Mo.

In responding to this advertisement mention GLEANINGS.

## MUTH'S HONEY-EXTRACTOR.

SQUARE GLASS HONEY-JARS.

TIN BUCKETS, BEE-HIVES.

HONEY-SECTIONS, &c., &c.

PERFECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,

CINCINNATI, O.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers." (Mention Gleanings.) 14fdh

**ITALIAN BEES AND QUEENS.** Tested queens, \$1.50. Untested, 75c. Bees, per lb., 85 cts. Frame of brood, 50 cts. Nuclei a specialty. Send card for price list. MISS A. M. TAYLOR, 9 10tfdh Box 77, Mulberry Grove, Bond Co., Ill.

In responding to this advertisement mention GLEANINGS.

## FOR SALE CHEAP!

### 75 COLONIES OF BEES,

Mostly Italians, in Koot's Simplicity and chaff hives, \$4 per colony, hive included. Special prices for the entire lot upon application. Combs built on wired frames of foundation. I have other business, and the entire lot must be sold.

15-16d

B. T. BLEASDALE,

983 Woodland Ave., Cleveland, O.

In responding to this advertisement mention GLEANINGS.

## LEPAGE'S LIQUID GLUE.

Few words of praise are necessary for this excellent article, so widely known and advertised. It is one of the best of liquid glues. Always ready for use. Mends everything. We have 4 different-sized packages.

Glass bottle like the adjoining cut for 10 cts.; 75 cts. for 10; \$7.00 per 100. Half-gill tin cans with screw cap, and brush fastened to inside of cap, price 15 cts. each; \$1.10 for 10; \$10.50 per 100. This latter can be sent by mail for 10c. extra for postage and packing.

Gill tin can with brush, 20 cts.; 10 for \$1.50; 100 for \$14.00; ½-pint tin cans, no brush, 25 cts.; \$2.20 for 10; \$21.00 per 100.

LePage's MUCILAGE, in large bottles, with a nice enamel-handle brush, at 10 cts. each; 75 cts. for 10; \$7.00 per 100. This is the best mucilage made, and will do nicely in many cases for glue, although it is pretty thin to be used as glue.

A. I. ROOT, Medina, O.



## Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 6 lines, and you must say you want your ad in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

**WANTED.**—To exchange 3 L. frame nucleus, with yellow Italian queen, in one-story Simplicity hives, worth \$2.00, for white paint, or offers. Mrs. OLIVER COLE, Sherburne, Chenango Co., N. Y.

**WANTED.**—To exchange pure Italian queens for extracted honey. Please correspond with description of honey and price, f. o. b., cars at your station. WM. W. CARY, Coleraine, Mass. 15tfdh

**WANTED.**—To sell or exchange, Italian bees and queens, and supplies. Address OTTO KLEINOW, 4tfdh No. 150 Military Ave., Detroit, Mich.

**WANTED.**—To exchange 80 acres of land in the basswood belt of Wis. A splendid location for bees, for full colonies of bees, and supplies. For information, address B. J. THOMPSON, 14-15d Waverly, Pierce Co., Wis.

**WANTED.**—To exchange Planet Jr. garden drill, hoe, and cultivator, and Bible Companion, 706 pages, half morocco binding, for bees, combs, chaff or Simplicity hives, etc. Address ALBERT MAKER, Urbana, Champ. Co., Ill.

**WANTED.**—To exchange bees for extracted honey. J. F. MICHAEL, German, Darke Co., O. 15-16-17d

**WANTED.**—To exchange fine Damascus double-barrel b. l. gun, for 3 or 4 h.-power engine. Also Model press and type, for power fodder-cutter. 15-16d O. BRUNFIELD, Brumfield, Ky.

**WANTED.**—To exchange 48-inch Otto special bicycle, used only 3 or 4 times, cost \$50, for a Barnes combined saw. Must be in first-class shape, as I guarantee bicycle. W. H. WINSCOTT, Sturgeon, Mo.

**WANTED.**—To exchange a 400-acre stock farm, for Western property, 200 in grass, 65 in timber; two-story dwelling, large barn, etc.; other out-buildings, never-failing springs; one mile to depot, and right in the blue-thistle belt, which is one of the best honey-plants in the world. L. GLOVER, Darkesville, Berk. Co., W. Va.

**WANTED.**—To exchange 3 Novice style extractors (for L. frame) valued at \$7 each; ten 3-frame nuclei with queen, valued at \$2.50; twenty tested queens, valued at \$1; fifty untested queens at 60 cts. each; one medium-size iron safe, for a printing-press, or something useful 14-16db S. S. LAWING, Henderson, Webster Co., Mo.

## Black and Hybrid Queens For Sale.

Eight mismated queens at 30 cts. each; 12 hybrids, 20c each; 6 brown, at 20c each; all reared by natural swarming. F. C. MORROW, Wallaceburg, Ark.

I have a lot of good hybrid and black queens for sale at 20 and 25c each. Send quick if you want them. L. H. ROBEY, Worthington, Mar'n Co., W. Va.

Six hybrid queens for sale 8t 25c each. LOUIS WERNER, Edwardsville, Mad. Co., Ill.

I have 12 or 15 hybrid queens that I will ship by return mail for 35c each. Safe arrival guaranteed. C. C. KIRKMAN, Redalia, Pitt. Co., N. C.

A few hybrid queens for sale at 25c each by return mail. FRED LEININGER, Douglas, Put. Co., O.



## HONEY COLUMN.

### CITY MARKETS.

**KANSAS CITY.**—*Honey.*—New comb honey is coming in quite freely. We don't look for a very active market before September. We quote white 1-lb. comb, 16c. Very little extracted on the market. We quote white clover or basswood, in kegs or barrels, 7@7½; amber, in barrels, 6c. *Beeswax*, none in market. CLEMONS, CLOON & Co., Kansas City, Mo. July 22.

**NEW YORK.**—*Honey.*—Our market is unchanged, although somewhat higher prices are asked for new extracted. There is some demand for new comb honey, but we have no stock yet. *Beeswax*, 26c. July 22. F. H. STROHMAYER & Co., New York.

**ST. LOUIS.**—*Honey.*—We quote white-clover honey, comb, 1-lb. sections, 12@13c. Extracted, clover, 5@7c, new stock. We have reports from several of our shippers, and they say the dry weather of April caused not over 50 to 60 per cent of white clover to be gathered. But, with dry weather, prospect of full crop from fall flowers. W. B. WESTCOTT & Co., St. Louis, Mo. July 27.

**CINCINNATI.**—*Honey.*—Nothing new since our last report. We may note the arrivals of quite a number of small lots of new honey, with quite plentiful offerings. Demand is slow. Extracted brings 5@8 cts. on arrival. Comb, 12@15c in a jobbing way. *Beeswax.*—There is a good demand at 20@22 on arrival for good to choice yellow. CHAS. F. MUTH, Cincinnati, Ohio. July 22.

**ALBANY.**—*Honey.*—Market not opened yet. Some talk of too much wet weather for crop, but I think the early sale after market opens will be the best. Free consumption does not begin until October. Consignments solicited. H. R. WRIGHT, Albany, N. Y. July 24.

**NEW YORK.**—*Honey.*—Our market remains quite active for extracted honey. Orange blossom, fine quality, sells readily at from 7@7½. Off quality of Southern finds quick sale at from 60 to 70c per gallon. No new California honey on this market. Extracted would bring from 7½@8c, while it is too early to stipulate on prices on new comb. *Beeswax* is dull, and prices declining on account of limited demand. Good yellow sells at from 25@25½c. HILDRETH BROS. & SEGELKEN, New York. July 22.

**BOSTON.**—*Honey.*—No change in the honey situation. We are expecting some new this week. At present we are without a single pound of comb honey, but we are receiving some very fine extracted from C. M. Lincoln, of Rupert, Vt., and it will sell readily at from 8@9c. *Beeswax*, 24@25. July 22. BLAKE & RIPLEY, Boston, Mass.

**ST. LOUIS.**—*Honey.*—No market for comb honey. Extracted, quiet at 6¼@6½ for bright; 5@5½ for dark. D. G. TUTT GRO. CO., St. Louis, Mo. July 22.

**DETROIT.**—*Honey.*—No new honey in the market, and old all sold. *Beeswax*, 24@25. M. H. HUNT, Bell Branch, Mich., July 25.

**COLUMBUS.**—*Honey.*—Honey is coming in very slowly; selling at 16@17c for nice 4¼x4¼ sections. July 22. EARLE CLICKINGER, Columbus, Ohio.

**FOR SALE.**—I have a quantity of choice clover honey in scant 1-lb. sections and 12-lb. cases, at 16c (for 100 lbs. or more). Also 60-lb. screw-cap cans of extracted clover honey, at \$5 per can. Safe arrival guaranteed by freight. OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

**FOR SALE.**—10,000 lbs. of choice white-clover honey in first-class one-pound sections, 24 and 48 lb. cases. This is the finest honey I have ever raised. If you desire to purchase, state quantity and I will quote bottom prices. EZRA BAER, Dixon, Ill.

**WANTED.**—100 to 200 lbs. extracted honey. DR. G. H. COREY, Bristolville, Ohio.

## PRICES REDUCED.

Untested queens, 65 cts.; 10 for \$6 00. Select tested, \$1.50; ten 2-cent stamps taken where postal notes can not be had. Can send by return mail. Money orders payable at Nicholasville.

J. T. WILSON, Little Hickman, Ky.

In responding to this advertisement mention GLEANINGS.

## THE BEE-KEEPERS' REVIEW.

A 50-cent monthly that gives the cream of apicultural literature; points out errors and fallacious ideas; and gives, each month, the views of leading bee-keepers upon some special topic. Three samples free. W. Z. HUTCHINSON, Flint, Mich.

Please mention GLEANINGS.

131fdb

THE HIVE AND HONEY-BEE, and DADANT'S FOUNDATION. See advertisement in another column.

## NOTICE.

### Sections, One - Piece,

4¼x4¼x2, open four sides. We have about 200,000 nice ones in stock at \$3.00 per 1000.

G. B. LEWIS & CO., Watertown, Wis.

In responding to this advertisement mention GLEANINGS.

## DR. TINKER'S QUEEN-REARING CHAMBER

The only practicable invention for rearing and securing the mating of a number of queens, and getting them all laying at once in full colonies of bees. Patented July 16, 1889. For particulars address with stamp. DR. G. L. TINKER, 15-16d NEW PHILADELPHIA, O.

In responding to this advertisement mention GLEANINGS.

### WINTER ONIONS.

For description see GLEANINGS, Sept. 1, 1888. Price of sets, 10c a pint, \$1 a peck, \$3.50 a bushel; by mail, 8c per quart extra.

EDWARD B. BEEBEE, Oneida, N. Y.

In responding to this advertisement mention GLEANINGS.

## Carniolan Queens.

Importing and breeding this race exclusively since 1884; the demand for them has more than doubled each season. Send postal for circular, or \$1 for choice untested queen; \$5 per half-dozen; \$5 for Benton's best grade imported queen. 11tfdb

S. W. MORRISON, Oxford, Chester Co., Pa.

In responding to this advertisement mention GLEANINGS.

## Crawford's Folding Paper Boxes

For Inclosing Section Honey.

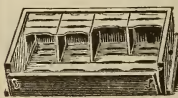
THE BEST BOX FOR THE LEAST MONEY!  
\$5.00 Per 1000

and less, according to quantity. Send for sample and price list. A. C. CRAWFORD, S. WEYMOUTH, MASS.

In responding to this advertisement mention GLEANINGS.

### CHOICE ITALIAN QUEENS.

Tested, \$1.25 each; untested, June to Oct., 75 cts.; 3 for \$2.00. Annual price list of nuclei, bees by the pound, and bee-keepers' supplies, free. 11tfdb JNO. NEBEL & SON, High Hill, Mo.



Eaton's Improved  
SECTION CASE.  
BEES AND QUEENS. Send for  
free catalogue Address  
FRANK A. EATON,  
5-16db Bluffton, Ohio.

In responding to this advertisement mention GLEANINGS.





Vol. XVII.

AUG. 1, 1889.

No. 15.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.90; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

*Established in 1873.*

PUBLISHED SEMI-MONTHLY BY

*A. I. ROOT, MEDINA, OHIO.*

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canada. To all other countries of the Universal Postal Union, 18 cts. per year extra. To all countries NOT of the U. P. U., 42 cts. per year extra.

#### OUT-APIARIES NO. XII.

##### UNLOADING AND FREEING BEES.

**U**PON hauling the first load of bees to an out-apiary, no special care need be taken till the load is taken off, for no bees are flying. After the first load, however, the case is different. Unless it happens to be so early or late in the day, or so cool that no bees are flying, great care must be taken. Use judgment as to how close you dare drive to the apiary, unless, indeed, there is no chance to approach near enough for the bees to trouble your team. I once kept bees in an out-apiary where there was no chance to get in the inclosure where the bees were, so I used a wheelbarrow to wheel them from the wagon to the apiary. But ordinarily you can drive nearer than it would be wise to have a team stand. Before you drive close enough to have any anxiety, get down from your wagon, put up your lines and have every thing in readiness to unhitch in a twinkling when you stop. If you have a single horse, unfasten the hold-back straps so that nothing shall be left to do but to unhitch the traces. Then lead your horse to the place where you will unload, unhitch as rapidly as possible, take your horse to a safe distance, and tie him; then go back and unload. Make some calculation to put the first loads in such part of the apiary that they shall interfere least with you when hauling succeeding loads; that is, in general put the first load in the furthest part of the apiary. I am not sure what is the best way to let the bees out of the hive after putting them on the stand; but I wouldn't let any of them out till I had finished unloading. Sometimes I have let them out without smoke, by moving very softly; but on doing so I am quite apt to take a short foot-race immediately after the bees issue from the hive. One might think that, after being pounded over the road so

long, bees would be good natured; but for some reason they are apt to be cross; and when a lot of cross bees rush out of a hive whose location they have never marked, I am doubtful about their finding their way back to the right hive, and a little skeptical about their being kindly received in any other hive. A few whiffs of smoke before unstopping the entrance makes matters pleasant, and I don't know whether that is better, or to dash cold water into the entrance.

I suspect it is better to let bees alone as much as possible the day they are placed in a new apiary; and I make a practice, pretty generally, when I take a load to an out-apiary to-day, to overhaul those that I hauled yesterday, after opening those I brought to-day.

##### BEST TIME TO TAKE BEES TO AN OUT-APIARY.

In the spring, pasturage is usually scarce; and if you have enough bees so that you need to take them from home for pasturage, they are likely to need the extra pasturage in the spring as much as any time, so that you will do well to commence hauling your bees just as soon as you can in the spring. Even if there is but little to work on in the spring, that little is quite important to encourage brood-rearing; and if you have 150 colonies, and take 75 of them away, the remaining 75 will have just twice the pasturage they had before, be that little or much. Besides, as friend Root suggests, the outside pasturage may be better. Bad roads may delay matters, for in some localities there are times in the spring when the roads are almost impassible. I would wait some little time for good roads.

I have sometimes kept bees home till well on in May; in fact, till one of the colonies had swarmed, as I was feeding daily in the open air, and I thought this would be of more advantage to the bees than the little they would gather in the fields at the out-

apiary. I don't think so now. I want them away as early as possible.  
C. C. MILLER.  
Marengo, Ill.

### BEE-KEEPERS' CONVENTIONS, ETC.

OUR GOOD FRIEND DR. MASON GIVES US SOME GLIMPSES AND HINTS IN REGARD TO THEM.

**F**RIEND ROOT:—I wish I had the descriptive power of some of your correspondents, so that I could tell about my observations, made when on a Ramble, and of the amateur experts I see at such times, in an entertaining way. At any rate it may not be uninteresting to learn that, in this locality, or within the bounds of our Tri-County Agricultural Society, comprising the counties of Lenawee and Monroe, Mich., and Lucas, Ohio, the bee-keepers are awake to the importance of improving every opportunity to educate the people in regard to our important and growing industry.

A year ago last winter the society held a three-days' meeting at Monroe, Mich. It was just "chock full" of enthusiasm, and bee-keepers did their full share. It was so arranged as to have our specialty discussed in the evening, when there would be a full attendance of people from the city, whom it is quite desirable to disabuse of their false belief in regard to the adulteration of our product, and correct the false impressions made by "Wiley" lies and newspaper squibs—the production of the fertile imaginations of reporters.

The next week after the above-mentioned meeting, a farmers' institute, under the auspices of the Ohio State Board of Agriculture, was held in this county, ten miles from Toledo, at which our friend T. B. Terry was one of the lecturers, and our specialty was again brought to the notice of the farmers and others by the reading of a paper by myself, and the subject received its share of attention. And again at a like institute held in another part of the county on the last day of last year and the first day of this, the subject was again presented by an essay that gave something of the natural history of bees and the benefit they are to the farmer and to the horticulturist.

Last winter at Adrian, Mich., was held the anniversary of the Lenawee County Horticultural Society, and one of the principal addresses, through the efforts of one of your patrons, Mr. D. G. Edmiston, of that place, was on the relation of bee culture to horticulture. It was well received. Again in January last was held at Adrian the meeting of the Lenawee County and the Tri-County Agricultural Societies; and on the programme for one of the evening sessions, half of the time was given to a paper on bee-keeping, etc., by H. D. Cutting, of Clinton, Mich., and to one by your humble servant. The subjects of both papers were discussed by such bee-keepers as D. G. Edmiston, Mr. Allis, A. M. Gander, and others; and the discussion showed that a lively interest was taken in the subject. I never was at a gathering of any kind where so many sample copies of bee-journals were asked for by interested parties.

Mr. Newman had kindly sent some copies of the *American Bee Journal* for distribution, and I had some extra numbers of *GLEANINGS* to distribute also, and they were given to interested parties, and I doubt not you will hear from some of them. I had some copies of "Dot Happy Bee-Man" song

with me, and at the close of the discussion of the bee essays the glee-club sang it, to the evident satisfaction of the hundreds present.

At the close of the institute, at the solicitation of our friend H. D. Cutting, we (that's my better half and I) went home with him, 22 miles by rail, and had a good three-days' visit with him and his family.

Of course, I had to take a good peep at his bees. Till the last two or three winters his bees have been wintered outdoors, packed on their summer stands, but he is now a thorough convert to the benefits of cellar wintering. His cellar is under his house, and used as a family cellar for vegetables, etc., and is 16x24, and 7 feet high. He has made a kind of rack along one side and end, so as to hold three tiers of hives, which are set with their entrances toward and within a few inches of the wall, each one being easily removable without disturbing any others. The frames are covered with enamel cloth, and the bottom-board is left on. Some of them were placed in winter quarters Oct. 20, and the last on Nov. 20; and I am safe in saying that there were not two quarts of dead bees on the cellar bottom, from about 40 colonies, and none had been taken up. A small window at one end admits light at all times, sufficient so that no artificial light is needed to see to get things from the cellar, and but little light reaches the bees. He prefers a temperature of from 38° to 40°. If with the temperature of my cellar, 50°, I were to admit light, I should have to carry out mostly dead bees in the spring.

On the evening of the second day of the institute I had the pleasure of going home with and being entertained by Mr. E. W. Ellis, president of the Adrian Scientific Society. He lives five miles in the country, and, metaphorically, is full of bugs, beetles, reptiles, etc. Being rather timid, and having no especial liking for such animals, you can perhaps imagine my feelings on being ushered into a room about twelve feet square, more or less, "zhust zhammed crammed full of dose pets vorks all der day und nefer schleep nights, more'n ten thousand hundert, I bets." But then I soon found they were all dead. Mr. Allis is an enthusiastic entomologist, and he has a large library of scientific books, and seemed to know all that was in them. Of course, he keeps a few colonies of bees, and tries all sorts of experiments with them.

We were entertained at Adrian by Mr. Edmiston and family; and of course he keeps bees, or how else could I possibly have stayed over night with him? His bees are wintered on their summer stands, in chaff, and other hives of that character; and being a small-fruit grower and nurseryman he does much toward properly educating the people of his locality in regard to bees and their work and production.

During the last two winters I have attended five of these institutes, held in the three above-named counties, and made special preparation to present our branch of agricultural or horticultural interest, bee culture, etc., in the most interesting and attractive form that it was possible for me to do. If any other bee-keepers were present, they have willingly "lent a helping hand." In no case has an effort been made to induce any to engage in bee-keeping as a business, but to give, in as entertaining a way as possible, a brief natural history of bees; tell where honey comes from, and how the bees gather, store, and ripen it; how extracted honey is secured, and, if possible, illustrate; tell how



and in what way bees are a benefit in fertilizing and cross-fertilizing fruit and other blossoms. Also tell about the reported injuries done to fruits, grapes, etc., by bees, and how they have been accused of "eating young ducks," etc., and correct these false impressions. It is the bee-keepers' own fault if our business is not properly brought before the public at agricultural, horticultural, scientific, and other gatherings. To be sure, it is not an easy matter for a large majority, perhaps, of bee-keepers to prepare entertaining articles on our specialty; but "there is nothing like getting used to it." If one is not accustomed to it, and does not feel capable of preparing an entire article, just let such a one get, if he has it not already, a work entitled "Bees and Honey," by Thos. G. Newman, and the first fourteen pages will make an interesting introduction. It has just such information as is interesting to the general public, and written in a very interesting way. When the next opportunity presents, make selections from Prof. Cook's Manual of the Apiary, the A B C of Bee Culture, either or both, always giving proper credit, of course, and you will be surprised at the amount of interesting and valuable information that can be thus furnished to willing listeners. And now that the new edition of Langstroth on the Honey-Bee, just revised by Charles Dadant, is to be had, there seems to be no end to interesting matter. New ideas are put forth, and the old ones are put in new dress, so that one is almost "lost in wonder, love, and praise."

Then the different bee-journals are constantly teeming with things new and old, so that, if one had nothing else to enjoy or do he might almost revel in an elysium of bee-lore. We bee-keepers should be part and parcel of all agricultural and horticultural gatherings, whether for discussion or fun and frolic, and also of many scientific and social gatherings and should "let our light shine." In order to have the proper amount of time allotted to us at these gatherings we must be on hand and have a hand in making up programmes, and see that the right ones are put in to fill the bill.

A. B. MASON.

Auburndale, Ohio, Mar. 18, 1889.

Friend Mason, I can readily imagine how all these conventions succeeded, had a good attendance, and that fun and frolic, as well as education and information, were the order of the day, providing *you* were present. I have attended some conventions where they could not get hold of a Dr. Mason, a Dr. Miller, nor a Prof. Cook, and it was hard work to keep things lively, and to keep up an interest. We certainly should be part and parcel of all agricultural and horticultural conventions, and we ought to let our light shine. If we do not it is very apt to burn dim and go out. May God help us along the line which you have mapped out.

#### COMB-HONEY SLANDERS.

THE CATCLAW AND WAHIA, OF TEXAS, ETC.

**M**R. ROOT:—I inclose you a copy of the *Brckett News*, our local paper. You will notice an article entitled, "A Professor Mistaken." As GLEANINGS reaches only those who are fully aware that manufactured comb honey is only a myth, we educate the public in this section by writing occasionally to our local papers. Our greatest opposition here is not from

the "manufactured comb-honey" people, but from the numerous old fogies who keep a few box hives and sell a pound of black comb containing honey from various sources, good and bad, pollen, and perhaps a few bees, all for 10 cents.

You will not, I hope, put us down as frauds for claiming on our letterheads that the catclaw honey is equal to clover honey. You perhaps have not tasted catclaw honey. I have tasted clover honey, and can judge. We hope that, in a few years, catclaw honey will be as well known in the North as the clover is in the South. At present, bee-keeping in this section is only in its infancy, and we have not yet any Hetherington, Dadant, Doolittle, or Heddon, although we may have soon.

Our principal honey crop is in the spring. Bees fly on and off all through the winter. They work on mistletoe in December and January; alguita in February; mountain laurel in March. This last is very valuable, as it comes at a time when the queens begin to lay. From the middle of March to the middle of April we have various flowers—prairie flowers, pysymon, hackberry, grape, daisy, etc., which stimulate brood-rearing, but not enough to show in the hives. Swarming commences about March 20th and lasts until April 20. Of course, it varies a little. Wahia, a short bush with feathery leaves (like acacia), has round white fluffy balls. This opens April 20, and yields half a crop of flowers, generally for three weeks. Catclaw, a bushy tree, has a similar flower, but long. It opens up about May 6, and to that we look for the other half. The honey from both these sources is white, and has a delicate flavor, but it granulates quickly.

From the end of May to October we have a little honey from corn (which we never extract); and after a heavy rain we have honey from white brush and sage; but it is in such a small quantity that we can seldom keep it separate. It is much superior to catclaw. In October we have sunflowers and broomweed. This honey is amber-colored, but has a nice taste, not too strong.

This year has proven to us very conclusively that it is an advantage to have out-apiaries.

Wahia and catclaw are plants for a dry climate, and we had so much rain this winter around our apiaries that the plants had very few flowers on them; whereas, outside a circle of about ten miles in diameter, of which we were in the center, the wahia and catclaw yielded abundantly. The bees from the apiary had to fly four miles and made only half a crop; whereas, if we had had an apiary at Elm Creek they would have made a full crop.

The rain falls in spots, and next year the conditions may be reversed, or perhaps the same; but in a country where one square mile will yield honey in abundance, and the next square mile none, I think it is well to have out-apiaries. When the year is good we can put from 160 to 200 colonies in one yard, without overcrowding.

We obtained a select tested queen from Paul Viallon, at the end of April, and we have now over fifty young queens laying that were raised from her, and they are keeping three Langstroth frames full of brood, which is good for this time of the year, when there is no honey.

We can only reiterate the hope expressed by so many other bee-keepers, that next time you go on a trip, you will manage to pay us a visit.

ST. LONGLEY BUCHANAN.

Brackett, Tex., June 20, 1889.

Our readers will find the article, "A Professor Mistaken," on page 620 of this issue. We are very much obliged, friend B., for your full particulars. We now agree with you, that there is some honey raised in Texas that is just as good as any white clover of the North. I should be glad indeed to visit the locality where you get that white honey.

### AN INTERESTING EXPERIMENT.

#### THE POSSIBILITIES OF INCREASE FROM A SINGLE SWARM.

**M**R. ROOT:—As I promised you a year ago, I will now give you a report of an experiment I made last year with a single hive, a second swarm of the previous year.

I made this experiment in order to test the ability of bees to increase during one year, and build their own cells and hatch their own queens, and draw out their own combs from foundation, all of which I compelled them to do by feeding. Sugar was the only means by which they were enabled to build up their stores, for there was no surplus honey taken last year in this township, that I know of; and what little honey there was, was gathered in the early part of the season. All the rest was honey-dew, and, as a consequence, fully 50 or 60 per cent of the bees in this vicinity dwindled to nothing, leaving their unhealthy stores behind them. I know of a number of persons who lost all their stands, and one man in particular (a friend of mine) who went into winter with 40 full colonies and lost all but one. I will now proceed to give you the result of the experiment, as copied from my memorandum—not in detail, however, as I fear it would make my report too long.

June 7, the hive in question swarmed; and knowing that it would swarm no more, as the queen-cells were cut down after the first queen hatched, I divided them during June into nine colonies, placing them in one-story hives, contracting them by division-boards to the necessary space. My queens then gave me some trouble, for I never before lost so many during mating time. Some of them were caught by bee-birds. I take the following note from my memorandum:

June 27.—Only two of the eight queens of the experiment hive are laying.

The following month I gave them frames of foundation as they needed them, and often they were not full frames, for I was compelled to cut the foundation into four starters, for fear I should run out altogether.

August 3 I commenced dividing the aforesaid nine hives, which had from seven to ten frames in each, by taking two frames of hatching brood each day from the two hives that could spare them best, and putting them in nuclei, made deep enough to admit of feeding inside, on top of the frames. I then closed the entrance of each one as soon as made, and let it remain so until the second night about twilight, and sometimes until the third night. After the first ten days I was able to mature queen-cells every day, and replace any that might have been cut down or otherwise delayed. In this way I made one and two nuclei a day, sometimes none, as for instance a wet day or Sunday. Of course, I replaced every frame of brood taken out, with a frame of foundation; and to each nucleus, when made, I also gave a frame. Thus I worked on till

the 15th of September, and finished by dividing some of the first nuclei that I made. The result was that I increased the said nine hives, or, rather, the one second swarm of the previous year, to 61 three-frame colonies.

Although they hatched all their queens, I found, toward the last, that they were not meeting drones, for the reason that there were none to meet. I then, as a forlorn hope, when too late, as it proved, sent off for queens, 18 or 20 in all. Some of them were accepted, some were missing after being accepted, a few commenced laying, but soon stopped, and, of course, for want of more eggs or brood, they were unable to get through the winter far enough to rally, but succumbed to their fate, queens and bees alike. Not a queen of all I purchased, nor the hives to which they were introduced, survived, except the last hybrid I got of you; so that 16 died, leaving me 45, which up to date have not had nor do they need, an ounce of feed.

I sold during the winter and spring, 27, which are gone and paid for. Their valuation is as follows:

Sold 22 at \$5.00 each .....	\$110.00
" 5 " 6.00 " .....	30.00
Retained 18 at \$5.00 each .....	90.00
Total .....	\$230.00

The above 18 I kept and I put them at \$5.00 each, although they are now worth \$7.00 each, for they have increased to full hives with top stories on, and some have even swarmed. In regard to feeding, I was very particular to weigh every ounce that I fed to the parent hive, her children, and grandchildren. They got no stimulation except what they derived from the sugar I fed them. The sugar item is as follows:

Fed during April and May .....	30 pounds.
" " July .....	62 "
" " August .....	206 "
" " September .....	402 "
" " October .....	150 "
Total .....	850 pounds.
At .....	8½ cents,
	\$70.00

I extracted 45 pounds from the combs left by the bees that died, which contained 32 pounds of sugar, or its money equivalent, \$2.00, leaving the total cost of sugar used, \$68.00. My net profit then was \$162.

Had last year been such a year as 1886, or even such a year as this, and had I known what I do now, I could more easily have increased the one to 100 with the same amount of sugar than I did last year to 61, and I am satisfied I would not have lost any in wintering. But even this increase seems incredible. Supposing the population of the earth to be fifteen hundred millions, this ratio of increase for six years would furnish every man, woman, and child on the globe with a fraction over 5½ colonies each.

If there is any thing you would like to have explained in detail, put your queries in the form of questions, and I will answer them very readily.

Whigville, O., May 30, 1889.

HENRY LARGE.

If we understand you, friend L., you commenced June 7 with a single colony of bees and its swarm. The parent and the swarm were again divided so as to make nine. These nine would probably be fair-sized two-frame nuclei, each nucleus containing, perhaps, a pound of bees and one frame of brood. The nine were then built up to tolerably good-sized colonies as fast as they



could be by sugar feeding, when no stores were to be had. If one commences in the fore part of June with any sort of a nucleus having a laying queen it can be built up strong very speedily. We presume you did not get any brood from other colonies; but we infer that you took queens or queen-cells. You also purchased 18 or 20 queens; but as all the nuclei died to which these were given, it is perhaps fair to make no account of it. The fact that you did winter through 45, all made from this original colony June 7, is astonishing. I once increased 11 colonies to over 50, and wintered them all; and I did it much on the plan you have mentioned. I suppose you did not keep any account of your time. If you could tell us just how many days' work it took to do this we could tell better whether it is a paying business. My impression is, that it will pay handsomely whenever bees can be sold, say for \$5.00 a colony. We used to have a good deal of sport in hunting wild bees, and bringing them home; but after I learned how to make colonies by increase, in the way you have outlined, I decided that I could build up colonies a good deal cheaper than to take them out of trees in the woods.

#### QUEEN-EXCLUDING HONEY-BOARDS.

BEE-JOURNALS, AND ARE THEY GUILTY OF PUFFING UP THINGS TOO MUCH?

ON page 441 of GLEANINGS I notice an article from the pen of my neighbor, J. F. McIntyre. Said article is headed, "A Big Testimonial in Favor of Perforated Zinc." Well, that big testimonial brought back to my mind what a friend of mine said to me on the Ojai about six years ago, when I asked him why he did not take a bee-paper, he being quite an extensive bee-keeper. He said he used to take several Eastern bee-papers, but he got tired of reading fine-spun articles and big reports from men that kept five or six hives of bees to experiment with. Well, I think that was a pretty big hurrah for one honey-board. If it had been 50 or 100, then I should have said hurrah too. I have used the zinc honey-boards again this season that we used last (see page 358), with a little better result than last season. This year four out of eight let the queens go through about as well or as easily as the workers. One of them we saw the queen go down through with perfect ease (this queen was a good-sized Italian); but, as you say, those zincs may have been made on your old machine that was somewhat worn. One of them was about half full of drones, hung by the neck, their bodies dangling down from the under side of the zinc. The other four worked entirely satisfactorily; and if I can get a queen-excluder that is a queen-excluder, I will use over one thousand of them next season.

I was at friend McIntyre's a few weeks ago, and saw, while there, one of Dr. Tinker's honey-boards. It appeared to me that the bees can get through it much easier than they can through the all-zinc ones, as the strips of zinc have two rows of holes in them; thus each row is close to the wood slats; and I notice the bees can pull themselves up through the perforations by catching hold of the wood slats. I gave Mr. Intyre one of my zinc

honey-boards. He will probably report his success with it. McIntyre and myself are the only bee-keepers in this county who have ever used a honey-board of any kind, I think. He has used probably not more than one or two. I have used over 200 Heddon slat honey-boards for the last three or four years, but I think I will make them all queen-excluding next season, for we have several thousand drone combs that we want to keep the queens out of. Can you tell me where I can get a machine to make the strips of zinc, with two rows of perforations in them? There are many bee-keepers here who count their hives by the hundred, who don't know what a queen-excluder is.

The honey crop in California is very short this year. I think it is less than a quarter of a crop. I have a list, nearly complete, of all the bee-keepers in the county, of the number of colonies each one owns, and the number of tons of honey produced by each. I will send you a report when complete, if you wish it.

DATE. May.	Weight or Gain in pounds.	DATE. May.	Gain in pounds.	DATE. June.	Gain.
10	2	29	2½	16	0
11	1½	30	2½	17	½
12	1½	31	1½	18	½
13	1½	June.		19	1½
14	1½	1	2½	20	0
15	½ lost.	2	3	21	0
16	0	3	3	22	1
17	3½	4	1½	23	¾
18	2½	5	2	24	1½
19	3½	6	1½	25	1½
20	2½	7	1½	26	1½
21	5	8	1½	27	¾
22	4½	9	2	28	2½
23	3	10	3	29	¾
24	4	11	2	30	½
25	½	12	1		
26	3½	13	1		
27	3	14	1½		
28	3	15	1½		

You can see by the record which I send you, of a hive that I had on scales this season, that the honey came in very slowly. It does not look very big for California, I assure you; but it will partly explain to you how myself and my four boys did all the work of extracting and taking care of over 1100 hives of bees. Myself and the three youngest boys extracted in 13 hours 2½ tons of honey, and we did not play much of the time either. Such rapid work is in a great measure due to the very convenient extracting-house that we have, a description of which I may give you in the future.

#### FOUL BROOD.

This is getting to be very scarce in this county. I commenced experimenting about the time that you were here last winter, with a very simple remedy for the cure of foul brood. I take two or three spoonfuls of sulphur, put it in an old fruit-can, and pour over it enough kerosene oil to make a thin paint of it. Apply it with a small paint-brush to the combs that have the diseased cells in them; brush them all over with the sulphur and oil. It will kill some of the healthy brood, but not all of it; also brush it over the frames and as much of the hive as you can without getting it on the bees. One or two applications have cured six or eight for me this season, or at least they are perfectly healthy now, and some of them were very bad.

Several combs were nearly half diseased. If the disease does not appear again in those same colonies by next spring, I will shout "Eureka!" Now, friend Root, don't say that you smell brown coffee or chilled brood, or something else worse.

L. E. MERCER.

San Buena Ventura, Cal., July 6, 1889.

## FALSE STATEMENTS IN REGARD TO THE HONEY BUSINESS OF OUR COUNTRY.

As a protection to our bee-keeping population, we propose in this department to publish the names of newspapers that persist in publishing false statements in regard to the purity of honey which we as bee-keepers put on the market.

HOW TO PREVENT THEIR PUBLICATION, AND HOW TO CORRECT THEIR BANEFUL INFLUENCE; SOMETHING FOR OUR SUBSCRIBERS TO DO.

**I**F there is any thing that the veracious scribes like to talk about in the press, and roll under their tongues as a precious morsel, and finally spit out upon the public, it is the subject of adulteration. They seem to have gone wild on the subject. They know people like to be told that they are being humbugged; and they know that the story of "Yankee ingenuity" will cause the gullible public to hold up their hands, "Did you ever!" and as long as there is a demand for it, so long the same old story will be rehashed, unless there is a stop put to it. "Manufactured comb honey," "artificial combs deftly filled and capped over by means of appropriate machinery"—oh dear! how stale it sounds! If the reporters could only change their tune a little it would be gratifying; but "appropriate machinery" has to be stuck in every time. Well, within the last few weeks, or at least since the *Philadelphia Record* commenced republishing the comb-honey story, the whole press all over the land has been reiterating it in long and short squibs. Clipping after clipping has been sent in until we feel discouraged. We have published them, and refuted them publicly, and sent marked articles to the editors, calling upon them for retraction. We have written private letters, asking them in all fairness to be kind enough to make some amends. Nor has Bro. Newman of the *American Bee Journal* been less vigilant. We have about come to the conclusion that the bee-journals need assistance in helping to cry down the evil. Jones sees a false statement about the comb-honey business in one of the columns of his local paper. He cuts it out, marking the date and issue of the paper, and sends the same on to us, or to Bro. Newman, of the *American Bee Journal*. Well, so many clippings like this have come in that it would almost fill one issue to make any thing like an appropriate denial for each one. Quite recently some four or five correspondents, instead of sending the marked article to us for refutation, have themselves called upon the editor, showing the absurdity of the statement in a recent issue of his paper. In two or three instances they have written out a refutation themselves, and this refutation appears in the very next issue of the paper, so that the false impression is corrected right where the mischief is done, and not in the columns of a bee-paper whose readers know perfectly well the untruth. The following is a spicily written article from the pen of one of our subscribers, Mr. Julius Gerard, of Mariposa, Texas; and as it illustrates the point we are getting at, we reproduce it here entire:

## A PROFESSOR MISTAKEN.

GLUCOSE AS ARTIFICIAL HONEY; A PRACTICAL BEE-KEEPER'S KNOWLEDGE OF THE FACTS.

*Editor Brackett News.*—I suppose whenever you want to get the real facts about any thing you refer to your *Encyclopedia Britannica*; for instance, if you wish to know how far it is from Brackett to the sun, you refer to the *Encyclopedia*; and whatever the given number of miles may be, you or any one else will accept it as a fact. I am sorry to say, however, that my confidence in the *American Encyclopedia* has been lowered 100 per cent, because I see at least one instance in which hearsay is given out as true science.

Mr. Chas. Morris, of the Philadelphia Academy of Science, writes concerning glucose, in Vol. III. of *American Supplement*, page 537, in the left-hand column, 21st line from the top, as follows:

"Glucose is used chiefly in the manufacture of table syrups and confectionery, in the brewing of ale and beer, and to some extent as food for bees and in the making of artificial honey. No reliable statistics can be had as to the quantity used in brewing, since brewers seek to conceal the fact of its employment. When it is fed to the bees, the honey yielded by the bees is almost pure glucose. In artificial-honey making, the comb is made of paraffine, and filled with pure glucose by machinery. For whiteness and beauty it rivals the best white-clover honey, and it can be sold at less than half the price. Its one defect is, that it is not honey."

Now, sir, this falsehood is given by a professor of science, and published as a fact in the *Encyclopedia Britannica*, a work to which thousands of people refer as authority.

If the author of the article on glucose will take the trouble to come out to the Mariposa apiary I will convince him that his education as a bee-keeper has been sadly neglected, and that what he wrote about artificial honey being made of glucose and then put into artificial comb by machinery, is false; and if he has taken no more pains in writing the other parts of his work than he did in this, I would not give a nickel for all the volumes of the *Encyclopedia Britannica*.

Mr. A. I. Root, of Medina, Ohio, offers a reward of \$1000 to any one who will show or tell him where artificial comb honey is made; this offer was made because so many false reports have been cast abroad about honey. Mr. Root has not yet found anybody who claimed the reward.

If Professor Morris, the glucose gent, tells us that the distance to a certain star is just 400,000 and  $\frac{1}{2}$  of a mile, I for one am willing to swallow it, even to a fraction of a mile. But when he wants to tell me or any other progressive bee-keeper anything connected with our industry, he should be a little more careful, as we never go by hearsay, but by facts. That man is doing a hard-working class of men a great injury. I can assure you, dear sir, that there is no artificial comb honey made by machinery, and that there never was any made.

Mariposa Apiary.

JULIUS GERARD.

Another one of our subscribers, also secretary of the Ohio State Bee-keepers' Association, Miss Dema Bennett, of Bedford, O., who, after having read the usual yarn about manufactured comb honey "deftly filled by appropriate machinery," in a large Cleveland daily, called upon the city editor in person, proving to him the falsity and absurdity of the statement respecting manufactured comb honey, which appeared in a recent issue of his paper. After telling him that tons and tons of honey are produced honestly, she referred him to us. As a result of this visit he wrote us a letter asking for facts in regard to the honey business. We immediately sent him a card, offering a thousand dollars for a sample of manufactured comb honey, "deftly filled by means of appropriate machinery." We also wrote him a long letter, detailing the importance of the honey industry in the United States, telling him where he could find out just



how bees "make honey," by sending a reporter. We referred him to Dr. A. B. Mason, Auburndale, O., and to H. R. Boardman, of East Townsend, O., and we requested, as a special favor to bee-keepers, that he send a reporter to either one of these gentlemen, and report what they see in his own paper.

A personal letter, written to the editor who has damaged the bee-keeping industry by one of the falsehoods, or, better still, a personal visit itself, will secure the attention that a prompt denial from a bee-journal might fail to do. In the one case Mr. Gerard wrote an article to the *Brackett News*. In the other case a lady bee-keeper (and what editor would not give one of the opposite sex a fair hearing?) called upon the city editor and enlisted his interest so that he even wrote to A. I. Root for information. The point is, that the *refutation or denial should appear in the paper in which the falsehood has been published*; in other words, those in whose minds the false impression has been created should have a speedy denial. These large papers will rarely deign to publish any thing from a small paper, but they will take something first-handed, as a general thing, providing the right influences are brought to bear. Now, then, we suggest that, instead of sending so many of these clippings to us, *you sit down yourself* and write to the editor of the paper in whose columns the false statement appeared. We will furnish free all the \$1000 reward cards you can use, and other matter you may call for. The more bee-keepers who will do this, the more effect it will have. Be sure to write in a courteous and gentlemanly manner. Do not call them a "pack of fools" or a "set of liars;" but write in such a way that they will respect the writer. Of course, we shall not cease pecking away at the falsehood, as we have done in the past, but we solicit the most hearty co-operation of our subscribers. Do not forget that, when the item appears in your local paper, a *prompt denial from yourself*, especially if you are a person of influence, and one whose word even the editor himself has no reason to doubt, will have more effect upon the editor than a denial from a bee-paper perhaps several hundred miles away. Do not leave any local editor unvisited, who dares to slander our industry by publishing any thing about "artificial combs deftly filled and capped over by appropriate machinery."

#### DR. MILLER ON SWARMING AND ITS PREVENTION.

##### THE CAGED-QUEEN PLAN.

I AM glad to see the views of Hasty, Doolittle, and Stachelhausen on swarming. No other matter connected with bee-keeping, at present, possesses more interest for me. In raising comb honey, swarming is the one great drawback that upsets all plans; and if we know the conditions necessary to induce swarming it may help us toward prevention. Indeed, I care very little to know the cause or causes of swarming, only as it helps me to know how to prevent it. Sometimes I think I have prevention of swarming just in my grasp, and then like a "will o' the wisp," it's away

off. I don't like to tell how much I've done in different years to spoil my crop of honey by trying experiments to prevent swarming. The experience of this summer has muddled afresh some of the things that I thought I had pretty well settled, and leaves the whole matter an open question. Years ago I practiced with considerable success the plan then recommended by friend Doolittle for the management of swarms, which was, in brief, to cage the queen when a swarm issued; in five days, cut out all queen-cells, and in five days more destroy queen-cells again, and liberate the queen. This worked well, and I am not sure whether any plan can be adopted that will give better crops where white clover gives the only surplus. The great objection to it is, that it requires some one to be constantly on the watch to see the swarms issue. After trying various plans, and giving them up in despair, I came back last year to caging queens again. After following the Doolittle plan already mentioned, the colony thus treated never gave any trouble again about swarming that season. It seemed reasonable that the same plan might be used without waiting for the bees to swarm, so I caged the queen before the colony had swarmed, looking through the brood-combs and destroying all queen-cells, if any were already started.

The queen was placed in the cage, between two top-bars in the brood-nest, and the bees always feed her there. I think in no instance have I found a queen dead in the cage after being so placed. After remaining thus for ten days, all queen-cells were destroyed, if there were any, and the queen liberated. Sometimes no queen-cells were started during the caging of the queen, but generally several were found sealed at the end of the ten days, and these cells were of the best kind. You will see that this varied not such a great deal from the old Doolittle plan, and I expected the same results but with some fears, as I have been so often mistaken in what to expect from bees. This year I have had a good many cases in which the bees swarmed out after the queen was liberated, sometimes in two days after, and sometimes sooner, the queens not having made any start at laying. Indeed, the year has, I think, been an unusual one in the matter of swarming. Many colonies have swarmed out while the queen was caged in the hive, and there seemed to be one or more cases where the bees, I think, remained clustered on a bush with no queen. At the Belden apiary a large swarm clustered on a low bush, remaining there two days and nights. I suspected that a clipped queen had traveled there with them, but I found nothing of the kind. If a young queen had been with them it hardly seems that they would have remained so long clustered, as the weather was fine. When I found them they had dwindled to a pint or more, and had deposited on the bush a mass of white wax of irregular form, sufficient to make a ball the size of a hickorynut or walnut. I cut off the bush and ran the bees into a hive in which I put a comb of honey and an empty comb—no brood. I looked over the combs carefully, confidently expecting to find a queen of some sort, but could find none. Two days later I found them busily storing honey, having started two queen-cells with pollen in them. I then gave them a sealed queen-cell. I incline to the opinion that a colony with a clipped queen had swarmed and settled, most of them having gone back, gradually, to the

hive, the queen having been lost. At present I am trying the plan of keeping the queen caged for some days after destroying cells the tenth day. You thus see I am still anxiously seeking to learn how to prevent, not increase, swarming.

#### HOW TO LOAD HIVES.

You think, Mr. Editor, I should load hives on a wagon with the frames running in the direction of the road, to prevent loosening frames when bumping down off bridges. So I should, if the road were largely made up of bridges, and it is possible I am wrong; but the bumps of that kind are very few, and the wagon box is constantly shaking from side to side in such a way that the swing would gradually loosen the frames, so I always load the hives with the frames at right angles to the direction of the road. Last spring I hauled nearly 200 to the out-apiaries; and although pretty heavy with honey, not a frame was loosened, and the same was true about hauling home the previous fall when they were very heavy with honey. C. C. MILLER.

Marengo, Ill.

Yes, friend Miller, we do not care so much about the *cause* as we do the *prevention* of swarming. If the cause will give us the clew to its prevention, well and good. We would much rather have good strong colonies—the stronger the better. It is true, new swarms have a peculiar vigor; but the parent colony loses sometimes four or five days in semi-loading in its preparation for a swarm—days that are of utmost importance so far as the production of honey is concerned. We have one good strong colony of imported stock that has not swarmed at all, nor even built a queen-cell. It has kept right on bringing in honey while the rest were getting ready for their picnic in the air. Now, if we can make these restless colonies behave like this one by caging the queen, what a bonanza we shall have!

#### LETTER FROM ITALY.

A GLIMPSE OF BEE-KEEPING AS IT IS IN THE NATIVE HOME OF OUR ITALIANS.

**E**DITOR GLEANINGS:—It is a nice thing to communicate to your brethren in bee-keeping your victories and the number of pounds harvested; but, American friends, what do you think of 1889 up to date? Somehow or other the pen does not seem to run so well. I'll do my best, however.

When upon the Alps to look over my bees I asked an old woman near my yard, 76 years of age, "Do you ever remember such a year as this one?" She answered me, "Yes, but once when I was yet a girl, when it rained for such a long time that corn was being sold for 18 cents a kilogram."

I wonder what honey will have to be sold for if this weather continues. In fact, but a few days excepted, this spring has been but a continual rain—just enough to prevent bees from going out. A warm temperature prevailed—just the thing wanted; fruit-trees were in full bloom, and the poor bees inside nearly starving. Stores were used up in a most wonderful way; but about the 20th to the 25th of May, brood-rearing came to a standstill, owing to shortage of stores, and scarcely any honey coming in. About the 15th of June this year my colonies had to be fed, and some at the Alp apiary

starved on account of rain, with plenty of honey in the fields. Out of the 102 colonies which I had this spring at the home apiary down in the valley, only about nine swarmed, owing to the bad weather prevailing during fruit-bloom. April 25th to the 20th of May I did not care to prevent swarming, wanting to increase the number of my colonies steadily. In the valley, however, the bee pasturage is very scarce; in fact, my only resource for the present, of any account, is chestnut. Notwithstanding the very beautiful hills, having at the back the lofty peaks of Italy's crown, my bees would nearly starve, or at least give but little increase, even in good years, were they not migrated in due time to fields more profitable to myself and enjoyable to my faithful workers. You see, I combine the Alpine holiday stay with the occupation on which I am relying for my "bread and butter." Like you, I am engaged in bee-keeping, not as a pastime, but as a regular business, in which pursuit Mr. Dadant was my principal master, without, however, having ever seen his face, and the one who decided my shaking hand to cut the rope which tied my frail bark to the land of hesitation; and GLEANINGS is the always long-looked-for fortnightly visitor; and, more than that, the regular companion on the lofty mountains and along the Alpine valleys while on apistic rounds. I have taken, besides, a partner in business whom I hope you all have already taken too, who promised me that, if I were faithful to him, "every thing I would undertake would prosper." I am trying hard to do so, dear friends.

Mr. Dadant's controversy in the *Apicoltore* of Milan, on the Berlepsch Italian small square frame versus the Langstroth-Quinby frame, still enlarged by Mr. D. himself, convinced me of the superiority of the shallow-frame hive, with large brood-chamber, with equally large surplus apartment; in fact, the little experience I have had with them has already more than convinced me of the importance of some conditions in preparing colonies for the harvest, especially in moving them from one field to another, which I have done for the last years, when moving my hives from the valley to the pasturage on the Alps; viz., migratory bee-keeping, which, when done with care, and under certain rules, has proven to me most profitable, about which I will report later on if you care for it.

But I should want the Rambler's pen, to draw out a sketch of the writer, the donkies, and the carriers of the "alveari" (hives), when, a few weeks ago, notwithstanding all the care taken, some of the yellow-jacket ladies got out and went for them. O Dr. Miller! come and help, please.

Suserna S. Giovanni,

F. MALAN.

Waldensian Valleys, Italy, July 7, 1889.

And so, friend M., it transpires that the great amount of rain through the spring and early summer extended not only throughout the United States, but even across the ocean to far-away Italy. We are glad to get this glimpse of bee culture from you; and we are more rejoiced than we can tell, to know that you have taken Christ Jesus our Savior as a partner in business. Truly "we be brethren." If it should ever be my good fortune to visit Italy, it will add much to the pleasure of the trip to think that I have real brethren over there—brethren through Christ Jesus our common Lord and Master.



## O. M. BLANTON'S VISIT THROUGH ARKANSAS AND TEXAS.

### HOW THE COW-BOYS GET THEIR HONEY.

**FRIEND ROOT:**—I promised you that, when I returned from San Antonio, Texas, I would write you of what I saw that would be interesting to bee-keepers. I stopped on my way at Hot Springs, Arkansas, the great resort for the afflicted of almost all chronic diseases. I found it quite a city, nestling in the mountains, with handsome buildings, and a population of 12,000. After a week's indulgence in the hot baths, with great benefit, I left for Dallas, Texas, as one of the largest and most prosperous cities in the State; thence I went to Fort Worth, and on my way I saw the magnificent fields of wheat, corn, oats, and other cereals, which would have made you feel as though you were in the Miami Valley, but for the few hundred acres of cotton on those large farms. The farmers were harvesting wheat, and the harvesters and binders were in active operation.

From the phenomenal city of Fort Worth, of 15 years' growth and a population of 45,000, I stopped over at the beautiful city of Austin, and inspected its capitol, one of the grandest and most complete pieces of architecture in North America; thence to San Antonio to meet my children and seven grandchildren who were pleading to go home to Greenville, Miss. I had but four days to visit among the bee-keepers, and had a poor opportunity to inform myself. The honey prospect was very good, on account of the seasonable rains.

I met Bro. Flournoy. He had abandoned his large apiary on account of the previous dry seasons and the ravages of foul brood. Some of the comb honey I inspected was very white and translucent, and made in beautiful one-pound sections, and the extracted was of excellent flavor, and light amber. I was told it was from the "cats-claw" (uña de gato) family of the mimosa, which blooms in April.

From my observation, the honeys of Texas are of a very strong flavor, owing to the great fragrance of the flowers, and from that cause you soon tire of it for a table luxury.

Some few of the honey-plants I will refer to:

1. The aguita blooms in February; extremely fragrant, and yields much honey for early brood; flowers small, in clusters, and of orange color. The berries are similar in color and size to currants, and of acid flavor, used in making jelly and pies.

2. The mesquite also yields much honey; and a singular feature about it is, that it rarely blooms in a rainy season, but flows abundantly in a dry one. It belongs to the family of *Leguminæ*, the beans of which the birds of every kind, and also cattle, feed upon. The beans are ground, and made into a kind of tortilla by the Mexican Indians, for food, when other means of sustenance are scarce.

3. The lechuguilla (pronounced lai-chu-geel-ya). It is a fiber plant, common on both sides of the Rio Grande, and as far east as the Nueces. The Mexicans use it for making rope. The flower blooms at the top of a tall stem, and is remarkable for the great quantity of honey it yields. It is of the yucca family. A gentleman informed me that, in riding through it, he grasped the flower with his buckskin glove on, and his hand was moistened from its nectar.

The wild heliotrope, Mexican willow, and hun-

dreds of other plants too numerous to mention in this article, yield honey, and most of the flowers are so fragrant that, in riding through the chaparral, you are almost overcome by the odor.

Southwest Texas is a great country for the bee-keeper, especially Uvalde County, except when the season is very dry, when the honey crop is almost a failure. In the mountainous parts of the Pan Handle (Northwestern Texas) bees are very abundant, and they are found in the caves and clefts of the canyons; and as the cow-boys' story goes, the clefts are so filled with honey that large combs project from them, and all they have to do to secure a sufficiency of it is to take a Winchester rifle and a bucket, and shoot off the comb and adjourn to camp for a feast.

Here at Greenville the spring opened favorably for a good yield, but the excessive rains now are a great drawback. My apiaries were much neglected last winter, owing to my absence from home, and I lost at least 60 colonies, and am now reduced to about 400. I found time in the spring to put them in good order and melt up a great portion of old combs—some, I am satisfied, were 12 years old. By this means I enabled them to make new comb for the queen to deposit her eggs in. I have so far secured only 8000 lbs. of honey, as much new comb had to be constructed; and my absence from home, and so many affairs to attend to, caused my apiaries to suffer.

O. M. BLANTON.

Greenville, Miss., July 8, 1889.

## NOTES FROM MY WORK-SHOP.

### DOUBLE-DECKED CELLS.

**I BELIEVE** it was Dr. Miller who lately called attention to the fact that bees sometimes build an extra tier of cells over the surface of a comb of sealed honey, after which the central tier was never opened by the bees. My surplus combs hang from the ceiling of my honey-house. Twice, once last fall and again this spring when robbers were particularly searching and energetic, I opened the doors for several days, and gave the bees free access to these combs until they were satisfied there was no more honey in them. In spite of this I found several combs containing honey in a central tier of cells, which they had not removed.

### DAMPENING SECTIONS.

All sections that have been allowed to get thoroughly dry will break largely in folding unless they are dampened before using, no matter what some manufacturers claim for their peculiar mode of manufacture. I formerly dampened them by piling them up in layers, wetting the back of each alternate layer with a brush or sponge. This was tedious, and often injured the appearance of the sections. I now use a much better and more expeditious way, as follows: Take the crate of sections as it comes from the factory, and set it on the floor, or, better, put two sticks under it to raise it slightly. Take an old quilt or blanket, something that will hold a great deal of water, and wet it, as much as it will hold without dripping. Fold this closely around the crate of sections. A dry cloth thrown over the wet one to prevent evaporation will be a help. Leave them over night or for several hours, and you will find them damp enough to fold without breakage. It does not take much

moisture to toughen the thin film of wood where the bend comes.

#### T SUPERS.

I am using quite a number of these this year, and so far I like them very well, after making some changes. I did not like to have the sections held so far apart by the T tins letting them get out of square, and leaving great chinks for the bees to fill up with propolis. So I took the tins to the vise and flattened the fold until it was no thicker than the two thicknesses of tin. Perhaps they are not quite as stiff that way, but they are stiff enough. Then I cut the sides  $\frac{3}{8}$  of an inch shorter, and, nailing them so that the inside length was slightly less at the top than at the bottom, I had a case that keeps the sections close and true, and avoids a great deal of propolizing.

#### GETTING THE LAST SECTIONS INTO T TUPERS.

Several devices for this purpose have been described and illustrated, I believe. Nothing better can be made than a piece of heavy tin the width of the section, or less, and five or more inches long. Bend it at right angles,  $4\frac{1}{4}$  inches from one end, and nail a small block close to the bend, on the outside, to handle it by. Two of these may be needed. Their use is evident.

#### UNFINISHED SECTIONS.

Well, Dr. Miller, you have done it. I have been wondering for a long time who would be the one to make that point against the claim that sections filled with comb built the year before are unprofitable to use. We all know that, in producing extracted honey, empty combs are very profitable to use, and it really seems as though the same principle ought to hold good with combs in sections. In my experience, though, it does not. Within the past week I have taken finished sections of honey, built on fresh foundation, from all sides of sections, filled with nice, clean, dry comb, nearly half of which were still unsealed, both put on the hive at the same time. Why is this so? Do the bees object to the small size of the combs, or does it simply take longer for them to ripen the honey put into the cells of full depth? The latter seems to me the better explanation. Perhaps if we should give the bees all the sections of comb that they could fill with honey, and then give them their own time to seal it after it was thoroughly ripened, we should find they would store as much or more honey than in sections where they had to build their comb. I confess I never tried this in just this way. This would be managing them on the extracted-honey plan.

With comb honey we very properly try to remove the honey as soon as it is sealed, while extracted honey should be left on the hive as long as possible. To produce extracted honey profitably, too, a much larger hive is needed than for comb honey. If we should allow a colony storing honey in combs no more room than is usually given to a colony producing comb honey, and not extract the honey from any comb until it was perfectly sealed over, should we get any more of extracted honey than we should of comb? I rather think we should not get as much.

I have experimented with sections of comb in various ways this year. I have used a great many bait sections, just as Dr. Miller advises, and I am willing to take back a part of what I have said, and admit that these bait sections often serve a very good purpose; and as there need be only a few of

them, it does not matter very much if they are not first class. I know of no better way to convince any one that sections of old comb are seldom if ever finished so as to equal in appearance those built new, than to use just this one bait section in each case, all others being filled with fresh foundation. Let such cases be filled during a good flow of honey from white clover, and any one with eyes can see the great difference in appearance. I am trying another experiment which I wish the readers of GLEANINGS could see in its progress. I have a number of Heddon cases, new style. These have seven single-tier wide frames, held together by screws on one side of the case, which we will call the front. The three back frames in each of these cases are filled with sections containing foundation put in them last summer, but little or not at all worked. The middle frame contains sections filled with comb built last year—nice ones, no candied honey or any thing objectionable about them. The three nearest the front are filled with sections of fresh foundation. Very often, as I pass about the apiary I lift the covers of these hives and note the progress of work in the sections; and it is very comforting to me to see in how many cases the three front rows are in advance of all the rest, although the row of combs in the middle has the best place, and it deepens my desire to have just as few unfinished sections as possible in the fall.

Dayton, Ill., July 10, 1889.

J. A. GREEN.

Thanks, friend Green. If you will turn to page 306 of GLEANINGS for April 15 you will see a diagram which represents the "double-decked cells," as you call them. We should like to know, however, whether the combs containing these cells are of ordinary thickness. If so, it is a rather unusual phenomenon.—Your method of dampening sections is rather novel; but in our climate we are of the opinion that the damp blanket would have to be around the crate of sections more than over night. If left long enough it would surely do the business, and you have our thanks for the suggestion.—As to the matter of putting the last section in the T supers, although we fill a great many supers for hives set up, we use no special appliance for getting the last section in. It does sometimes cause a little trouble; but a little shucking of the crate will usually cause it to slip into its place. The point you speak of, of a space between the sections, formed by the T tins, is one of the objections against the T super, as ordinarily made. The one-piece sections have a tendency to assume a diamond shape. When two of these sections lean in opposite directions from each other, we have noticed sometimes a space of nearly a quarter of an inch. The space formed by a T tin is usually just wide enough to cause the bees to chink propolis in between the rows at the top. This can be obviated, however, by using an extra set of T tins; and this extra set will at the same time hold the sections perfectly square.—On the matter of unfinished sections, we do not suppose there will ever be an agreement among the mass of bee-keepers as to whether their use is profitable. Our experience rather coincides with Dr. Miller's. Quite a number of our colonies would not go up into sections, although they were strong, and their brood-nest was



crammed full of honey and brood. From all such we removed one of the sections of foundation and put in its place a section of partly drawn-out comb. In most cases it had the effect of starting the bees above at once. Honey was first stored in the bait section, and then the bees gradually began upon sheets of the adjoining foundation. On others of our colonies we put in a whole row of unfinished sections, because they were not as strong as some others. Although the other rows contained full sheets of foundation, the row containing the unfinished combs of the previous year are the only ones to-day that contain any honey at all. In a heavier honey-flow, perhaps our experience would be reversed.

### M. H. HUNT'S APIARY.

HIS ONE-STORY CHAFF HIVE, ETC.

THE cut shows only the central part of our apiary. The large hive is the center, and contains four swarms. It is made quite ornamental, and we all think it a very handy one to work with. The upper story is hinged, and self-supporting when tipped half over. The

Chaff hives suggest outdoor wintering, which we have always practiced, and, with the exception of the great honey-dew year, we have been very successful.

#### HUNT'S APIARY.

The grass in the apiary is always kept short; and to keep it down close to the hives, so the mower will cut it all, without hitting them, the sod is removed for a space of eight inches all around each one, and cinders packed in. As the grass sometimes grows through this, we are experimenting with water lime; and if it stands the winter without crumbling, we shall use it around and under all our hives.

We have always tried to make our yard attractive, and I think it pays in the satisfaction one feels in looking it over, and showing it to visitors. It also stimulates others to do likewise, which certainly helps our business.

We have sold both of our out-apiaries. We could not attend to them as we wished, on account of our increasing business. Our house and factory are a few rods to the right of the honey-house.

Bell Branch, Mich.

M. H. HUNT.

The apiary presents very much the appearance it did when we visited it a few years ago; in fact, a photographer, we fan-



HUNT'S CHAFF-HIVE APIARY.

rest of the hives (ninety in all), except five or six, are our new style, chaff in the lower part only. The upper part is movable; and when off it is just right to hang in brood or wide frames. Should you wish to get at the brood-frames when the sections are on, it is but a moment's work to remove them all at once. The brood-frames come up even with the top of the lower part. The space for surplus is 21 x 23 inches, and can be used for any kind of surplus arrangement that one happens to fancy. The upper part is made slanting in order to get the cover the same size as the lower part, making it more handy to pack and ship. The whole top is filled with absorbing material in the winter.

cy, might step into the yard at any time and take a picture, and friend Hunt would never have any regrets in having it presented to the public. We do not know whether he always keeps down the grass so that it presents the appearance of a nice lawn. If he does he does better than the most of us. Sometimes visitors call at our apiary, and we have to apologize because of the grapevines that have grown over the hives, and are sticking out in every direction, or because of the long grass that has not yet been mown. We generally get around it by saying we have been "so very busy."

Last year, when we had foul brood, we used to say that, as the apiary was a big expense, yielding almost no revenue, we hardly felt that we could put more money into it than was absolutely necessary. Friend Hunt's idea of keeping cinders under the hives to keep away grass is a good one, though it must be considerable labor at first. If the weeds come through, sprinkle a little salt where they start up. The cheapest way to keep grass and weeds away from the entrance is to sprinkle with salt. A couple of pailsful of rock salt will keep the entrances of a hundred hives clear for the season.

## AMONG THE BEE-KEEPERS OF VERMONT.

CONTINUED FROM LAST ISSUE.

**B**RISTOL is a fine location for a crop of basswood honey, as these trees are plentiful on the hills and mountains. This crop is generally gathered inside of two weeks. In 1883 Mr. Manum's best colony gave 312 lbs. of comb honey. In 1885, when he obtained 19 tons of comb honey, and 3 tons of extracted, from 450 colonies, spring count, his best colony gave 228 lbs. of comb honey; and that season, at the Mills Apiary, near Bristol, his hive on the scales "gained in one day while working on basswood, 33½ lbs.; in 4 days, 123½ lbs.; and in five days, 179½ lbs."

White clover is more plentiful, and yields better on the heavy clay soil in the towns along the shore of Lake Champlain, and for this reason several apiaries are quite a distance from Bristol on the west and north, one being within a quarter of a mile of the lake, and 16 miles from home.

We visited all the apiaries but two of the most remote. All were of great interest to us, but we were especially pleased with the situation of the new one, apiary No. 6.

The valley is long and wide, large enough to give quite a meadow pasturage, white clover being plentiful 1½ miles away. On all sides, except the southwest, were high ridges on which basswood-trees were abundant. Here in an orchard on level ground, well sheltered from cold north winds, they were laying out the new yard.

At each apiary is a building containing work-room and honey-room, and one hive standing on scales. A piece of section on which the hive number is stenciled in black is tacked in the gable of each. Records of each colony are kept on a piece of section, or smooth piece of wood, which is left on the packing inside the case.

In some hives we found the records of several years giving dates of examination, when swarms issued, when requeened, age of queen, etc., all kept in a kind of shorthand familiar to many bee-keepers. A book account of the important operations requiring special attention at a certain time is also kept in each bee-house. Hives are usually placed in rows 5 feet apart and 12 feet between the rows, when they face each other, and five feet between when back to back. In setting hives, a long line is used, the distance measured off, stakes temporarily driven, and a hive set against each stake and blocked up level. The packing is left about the inner hive the year round, and hives are not changed when once placed, unless to another yard. To prevent an upset during gales in winter, each hive is

tied by a large cord to stakes driven into the ground.

Most of the readers of GLEANINGS are familiar with Mr. Manum's three-legged swarm-catcher, in the cage of which the clipped queen caught as the swarm issues is confined, and on which the bees cluster, and where they are left until there is plenty of time to hive them. Mr. Manum places the catcher so the caged queen is as near as possible to the flying bees; or if they have clustered, he pushes the cage into the cluster, or near by, and they soon find the queen and settle around her. If the swarm has gone some distance, or is in a high tree, the cage is stood up in front of the old hive. When they find they are without a queen they return, find her, and cluster with her. That they may surely cluster instead of going back into the hive without her, the hive entrance as well as that of one or two hives next to it is covered with a sheet.

Instead of carrying hives for the swarms, the latter are carried to the hives. A part of each swarm, about one-third, is shaken off in front of each old hive, and two or three of these reduced swarms with one queen are put in each new hive.

After the honey season, occasional trips to the out-yards are sufficient. Then where bees are very strong, and hanging out on the hive, new colonies are quickly and easily made without opening hives, by dipping off part of the bees and putting enough with a nucleus, or into a hive of comb having a caged queen.

The bees are mostly Italians. Some of the apiaries have a trace of Holy Land and black blood. The queen-rearing stock is selected out of this large number. Especially good stocks are set apart, and gradually culled down to a few of the best. We saw some fine queens here—good size, with thick and plump bodies, and darker than the usual type.

In the out-yards, the comb honey, when finished, is disconnected from the brood-nest, and remains in the outer case until cleared of bees. In the gable at each end is an auger-hole covered with a bee-lead, which, if properly arranged, allows bees to leave but not to return. In the honey season this usually works well; but when robbers are troublesome too much dependence is not placed on it, and there is on the inside a piece of wood or tin which may be turned around over the hole, and so all possibility of bees entering be prevented. The cover, which is fitted with a simple device, can be tipped back, and is held by a cord. This saves lifting. To hurry matters, the case is occasionally opened, and a few puffs of smoke given; this causes many to fly out, when it is again closed. When they are mostly out, the clamps are removed to the honey-room and stood in piles just as they are, except that the propolis is first scraped from the top and bottom to prevent them from being fastened together. There they are left until convenient for teams to take them to the home honey-house.

The crop at the apiary near the railroad is cleaned, crated, and shipped from there. In loading, the teams are backed up, the heads of horses covered with a coat or blanket to protect them from the bees, the honey is put in as quickly as possible, and covered with a sheet; the driver mounts the load; and as the horses are started, this covering is pulled off and the bees are soon left behind.

The home building is 16 feet by 34, and 1½ stories high. The upper part is used for storing fixtures,



while below it is divided into three rooms. On the east is the work-shop, fitted with desk, work-benches, and tool-racks; with doors opening into the apiary, and driveway with a stairway leading to the left. Next is the sorting-room, which receives through an outer door the clamps of honey. Here they are emptied, and the sections scraped, which are then stored in the west room, which is 16 feet square, and plastered. This has not been room enough to store the large crops, and much had to be left in store at the out-yards until room could be made. The small crop of last season had been shipped; but piles of clamps containing partly finished or empty combs occupied much of the room. When unloading, they back up to the door, quickly unhitch the horses, and get them under cover, and unload, if possible, before the bees in the home apiary realize their opportunity.

We noticed the hands were on the alert, and lost no time in getting the horses out of the way. The harnesses were made especially for quick work, snaps being used whenever practicable. The importance of this has been learned from experience. At Mr. Manum's farm, just out of Bristol, where he had planned to build a new home and move his home apiary, he has built a new honey-house and work-shop, 30 x 48 feet, two stories high, with a cellar basement. The sorting and storage rooms are to be very large, and each has a wide outer door opening into a shed, into which a team may be driven, horses and all, the doors closed, and honey loaded or unloaded at leisure, without fear of robbing bees.

On the farm is another patch of Chapman honey-plants. Altogether he has about a quarter of an acre. He says the bees work on it all the time it is in bloom, and are wild over it; but whether it is best to plant it largely by the acre for honey alone, he is not sure. The plants are quite ornamental, four or five feet in height, and were then covered with round balls going to seed. He also had several patches of Japanese buckwheat, which promised much better than the ordinary kind.

Mr. Manum is interested in gardening and poultry, and he has a hen-house 65 feet long, 16 feet wide, and 1½ stories high, in which were Wyandottes, Plymouth Rocks, and common fowls. The house was conveniently arranged; and in the yards, by means of tubs and connecting troughs, he had arranged his summer watering-fixtures so that, by simply pumping a barrelful in the new building, each yard was supplied. This disposition to systematize work and invent labor-saving devices, is also seen in the hive-fixtures used in the management of the apiaries.

In 1877 Mr. Manum was engaged in the harness business, but was looking for another, on account of failing health. Mr. Smith, now of the firm of Drake & Smith, persuaded him that winter to read "Quinby's Mysteries of Bee-Keeping," which he lent him. He read and became interested, and that spring he bought two colonies; and by increase and purchase he had 20 colonies in the fall. A year or two after, he heard of Mr. Crane, whom he visited and found ready to give ideas which were of help. He tried the American hive and many others; changed and experimented, until by improving and combining he settled upon the hive and fixtures he now uses. He commenced with the 5-lb. box, with glass in one end; then on recommendation of Mr. Crane he tried that with glass on four

sides. Later, they together worked out many sections, crates, and other hive improvements.

The first section he used held about 4 lbs. They were made of pine, and nailed; later he used them holding 1½, 1¼, 2 lbs., and 1 lb.; and now he has discarded all but the 1-lb. box. He has tested the half-pound, and believes bees store honey in them just as well, but does not care to use them, as there are so many more pieces to handle, and make too much work.

We believe Mr. Manum was the first to make a white-poplar dovetailed section. His expenses the last three years have been quite heavy, with a very slight amount for the other side of the account, and affairs have looked somewhat blue; but he feels confident the coming season will be a good one. He 'ed, the past season, for winter stores, 28 barrels of sugar.

While there we visited the factory of Drake & Smith, who manufacture, as well as their celebrated white-poplar sections, a fine line of small-sized locked-corner boxes, having a sliding cover. They are also of poplar, and are turned out very white, smooth, and perfect. We saw the various machinery used, and were especially interested in that used for gluing and putting together the boxes. This firm also manufacture all kinds of hives and fixtures. Their foreman, Charles McGee, was one of Manum's hands in the apiary, and now owns 170 colonies, which he keeps in two yards, and leaves the shop to care for them during the swarming and honey season. His crop the past season was 1500 lbs. of comb honey.

Another firm in Bristol, Prime & Gove, also make very fine white-poplar sections, as well as hives.

We also visited the apiary of Mr. Edwin A. Hasseltine, on a farm near Bristol. He had 75 colonies, and his crop last season was about 500 lbs. He runs the Bristol outer case.

After a visit both enjoyable and profitable, we left the home of those who had done so much to make it pleasant for us, and, by the kindness of Fred Manum, were driven to Middlebury to see Mr. Crane. Fred, a single young man of about 25, is the only son. He manages an apiary during the season, and helps his father at other times; but we suspect he cares more for horses than for bees. We were surprised to see the load of outer cases and hive stands which he managed to pack and pile up together on the double wagon, when they were moving. We did not ask the privilege of riding with him on the load.

Mr. Manum has since met with a great affliction in the loss of his wife, whose helpful sympathy and kind spirit made his home a home indeed. The news of her death, coming when we were expecting and hoping for good news, gave us pain, and roused our fullest sympathy for the husband and son. We shall always remember her kindness.

Pawtucket, R. I.

SAMUEL CUSHMAN.

*To be continued.*

Thanks, friend Cushman. As we have been following Mr. Manum very closely in his writings, your visit is of more than ordinary interest, because it details some things in regard to our good friend Manum and his work which he himself with rare modesty omits to say of himself. We feel as if we wanted to enjoy the privilege that you have had, of visiting this energetic Vermonter; and we trust that this hope may be realized

by one of the representatives of GLEANINGS in a year or so. We are impressed with Mr. Manum's system all the way through, and we are not at all surprised that he is a *successful* bee keeper. We admire his good sense in using snaps on harnesses wherever practicable, for facilitating hitching and unhitching his team to and from the wagon. We often wonder now why so many farmers and others will go to the trouble of winding a hold-back strap three times around the thill, and buckling, instead of making the same attachment instantly with a snap. In Mr. Manum's case it might save him the destruction of a wagonload of comb honey, and possibly permanent injury to the team itself. If our friend will adopt Mr. S. I. Freeborn's suggestion of using a draw-pin to disconnect the team from the wagon itself by a simple jerk with a chain or rope, he will have his harness rig very nearly perfect. On account of our recent mishaps in hauling bees we appreciate thoroughly all these improvements.

#### MANUM IN THE APIARY WITH HIS MEN.

##### MOVING BEES.

"GOOD-EVENING, Whittier. I have brought you a load of bees from Fred's yard. He is getting short of empty hives; and as you have a plenty here, I thought I might as well bring the bees here now as to move the hives. You will find there are but few bees in each box, as I have brought only what bees adhered to the combs after a swarm had issued. While the swarm was in the air he simply transferred the combs and adhering bees from the old hives to the moving boxes, and let the swarm return, to find nothing in the hive but foundation or empty combs. The honey season is so nearly at an end with him that I thought it better to get some more increase now than to keep them all in one hive and get nothing. I think they will both build up strong for winter."

"Well, I must say, Mr. Manum, that you have a very convenient box for carrying bees in."

"Yes, I like it very much. I can move full colonies in very warm weather, without danger of melting down the combs. Last year I moved 100 colonies 11 miles when it was very warm. You see how I have got it fixed. It is simply one of my brood-boxes with a thin bottom nailed to it, and a three-inch (high) rim covered with wire cloth for a cover, held in place by dowels and hooks. This forms a three-inch space over the frames for the bees to cluster, which relieves the combs of so many bees; and with 1½-inch holes near the bottom, covered with wire cloth, gives them a current of air, which is very essential in warm weather; and you will also observe that each comb is secure. They can not move, as each end of the top-bars is set in grooves, as well as the bottom-bar. They are so spaced that the box holds but 11 combs instead of 12, making a ½ space between each comb. Now, you see all we have to do is to set the box near the hive they are to be put into. Remove the rim-cover, shake the bees adhering to it in front of or in the hive, and lift out the combs one by one, and set them in the hive, and the work is done. My

wagon-box is set on springs made of steel rods, so arranged that the spring comes from the twisting of the rods. I first set 12 of these boxes on the bottom of the wagon-box, then this rack goes over them, and on the rack I place 12 more, making 24 swarms for a one-horse load. We carry 50 in the two-horse wagon, so that, when we wish to move an apiary, Fred and I with both teams can move 74 colonies at one trip. I must now go home and take off what honey there is finished up, as I want to get an early start in the morning; for I am going to drive out to Ferrisburgh to see how Leslie is getting along."

JULY 20.

"Good-morning, Ed. I just thought I would call a few moments and let old Bill take a rest awhile. I am going out to see Leslie, and it is quite a drive over these hills. How are you getting on requeening your apiary?"

"Pretty well. I have now young queens in all the hives that had two and three year old ones; but some of them are caged yet. I am to liberate the last lot to-day. You got those queens all right that I sent you, I suppose."

"Yes, sir; and they were nice ones too. What kind of candy is that that you use for queen-cages? Is it what they call the Good candy?"

"No, it is the Manum candy. I have used it for about ten years. It took me two years to get it to suit me—or at least to suit the purpose for which I wanted it. The beauty of this candy is, besides being a perfect bee-food, it will never dry up and become hard. I have kept it four years in an open dish, and at the end of that time it was as good as newly made candy. I kept the secret to myself until three years ago, and then I told only one man how it was made; but within a year I have told several."

"Then you have no objection to telling me, have you?"

"No; I am willing all should have the formula now, and here it is:"

##### MANUM'S QUEEN-CANDY.

Take 8 spoonfuls of coffee A sugar; 1 of wheat flour; 1 of glycerine; 2 of granulated honey.

"First thoroughly mix the flour with the sugar, then pour the honey and glycerine in a tin dish; then the sugar, and set the dish into another larger dish partly filled with hot water (I use an ordinary glue-pot); set it on the stove and let it simmer until the sugar is dissolved, then remove to cool, when it is ready for use. If the honey is thin it may be necessary to add more sugar or use less honey."

"Now one word before I go. Be very careful about exposing honey after the bees stop getting it from basswood, and that will be very soon now. When you notice them hanging around the honey-house it will be a warning to you to be very careful, as it will take but little to set them to robbing."

"How do you do, Leslie?"

"Good-afternoon, Mr. Manum. You are quite a stranger here."

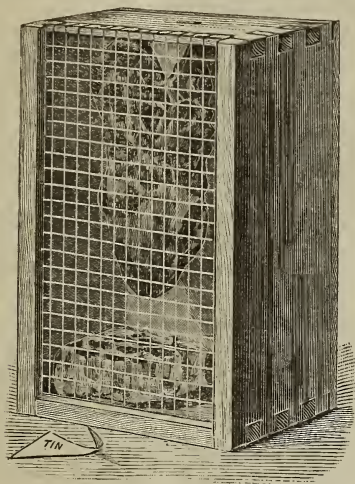
"Yes, I have rather neglected you this year; but the truth is, I have had my hands full since the season commenced; and besides, I felt perfectly at ease, knowing that you would do as well without me, as you have worked at the bee-business long enough now to be thoroughly posted."

"Well, I have done as well as I could; and by corresponding with you often I have got along pretty well so far."

"Well, Leslie, I have brought you something



new. You know I have been experimenting for a number of years with queen-nurseries, and never fully succeeded in getting one that suited me. The little tin incubators I made four or five years ago work very well, but I am always worrying for fear they will set the building on fire. But the other day I hit upon a nursery that works to perfection, and here it is.



MANUM'S QUEEN-CELL PROTECTOR.

"Simply a frame filled with little boxes which have a wire-cloth cover. You see, my frame takes just 32 of them, but I prefer a half-frame holding 16, like this one. All you have to do is to hang the cells on these tin points, and hang the frame in an upper story in place of a comb, and let the queens hatch; or if you prefer you can hang the nursery in the body of the hive under the sections, but it is handier to get at in an upper story. I have now eight of these nurseries filled with cells, in my home apiary, and one to each of the other apiaries. I am making more as fast as I can, so all can have five or six.

"I want you to be sure to discard all queens over one year old, unless you have one or two very extra good two-year-olds that you will want to breed from next season. I am thoroughly determined not to winter any queens older than one year."

"Well, that is just what I am doing; and you will find I have not increased the number of colonies in this yard very much. When a two-year-old queen swarmed out I killed her and let the swarm go back, and I kept the cells cut out until they had nothing to raise a queen from; and now I am giving them virgin queens as fast as I can hatch them; and by giving them plenty of room in the boxes I find they work quite as well, but more especially after I have given them a queen."

"Yes, after you give them a queen they carry up the uncapped honey from below to make room for the queen to lay. I am teaching Scott and Fred this year how to run them in this way—especially those colonies that have cast a swarm—by keeping the queen-cells all cut out until the brood is too old to build more; and in 16 to 18 days after the swarm issued, give them a virgin queen. There is no danger then of second swarms, and it is a very easy

way to requeen an apiary from choice stock; and by the help of these nurseries it will now be nothing but fun to hatch queens. Well, I have made you quite a visit; and as I see nothing out of order here, I will hitch up old Bill and start for home."

Bristol, Vt.

A. E. MANUM.

We are interested in your bee-candy. We suspect that one of the elements which contributes to the success of your candy is glycerine. It is this, doubtless, that keeps it soft so long. Just now we are making the Good (or Scholz) candy as follows. We select some of the very nicest alsike or basswood honey that we have in stock. This we heat until it becomes quite thin. To this we add confectioners' powdered sugar, and knead it into a stiff dough. But this candy, if allowed to stand awhile, will run and become soft. To prevent this we add common powdered sugar, kneading it over to make as stiff a dough as possible. We have found that a mixture of the two sugars gives better results than either one alone, and our losses in bees and queens sent out have been reduced to a very considerable extent, so that now we scarcely have reports of bees dying, even during hot dry weather, most unfavorable for shipping bees. Well, now, may be your candy is better yet. We are going to give it a test at any rate.—We received your sample queen-cell protector, and instructed our engravers to make a full-sized engraving of it. The tin which supports the cell is shown in front of the cage. It is passed through the little slot shown on the top of the cage. The wire cloth is made to slide in a groove, so the hatched queen may be easily taken out and another cell put in the place of the one now empty. The principle of the queen-cell protector is about the same as that illustrated and described on page 201 of Alley's Beekeeper's Handy Book; and, as nearly as we can judge, Alley's queen-cell protectors are used very much on the same plan. Such a queen-hatcher works well, and we have tried them considerably.

#### MUD-WASPS, SNAKES.

**FRIEND COOK:**—I send you to-day a nest which I first thought was a wasp's nest; but on investigation I found it full of spiders. I found it in the upper part of a hive. Will you kindly describe it in GLEANINGS?

Fremont, Mich., July 2, 1889.

W. E. GOULD.

Prof. Cook replies:

The nest is that of the mud-wasp, probably some species of *Sphex*. These wasps have long peduncled abdomens, and are interesting in that they do not kill the insects which they furnish to their yet unhatched larvae. I have often found live spiders entombed in these clay sepulchers. The wasp paralyzes the insect, spider, etc., places it in the mud cell, lays an egg on it, and seals all with clay. When the wasp egg hatches, the young or larval wasp feeds on the still living food prepared by its parent.

#### COPPERHEAD SNAKES.

I wish to thank GLEANINGS, for through it I have received from J. R. Atchley, Arlington, Texas, a beautiful copperhead. This, though very poisonous, is really one of the most beautiful of American

snakes. I am delighted to get it. Though sent in a close box all the way from Texas by mail, it came safely, and was lively upon arrival. I should like to get the other Southern snakes, especially the moccasins. I would pay for expense and trouble. They can be sent at my expense. I am told that it is unlawful to mail them. A. J. COOK.

Agricultural College, Mich.

### A GOOD YIELD.

#### ORGANIZING A CONVENTION.

I HAVE secured two tons of comb honey, and extracted three and one-half tons, making 11,000 lbs. All of it is clover, except some that is mixed with linn. Prospects are good for more honey yet. I have increased from a trifle over 120 colonies to 195. My bees are all Italians; but as soon as I can find time I expect to experiment with Carniolans, but more for amusement than in hopes of finding a better bee than the Italian.

What is to prevent us bee-keepers of Western Missouri and Eastern Kansas from having a rousing convention in the fall? Doesn't it look too bad to have such a host of bee-keepers in a good honey-producing country, and never a meeting of any kind! We could meet at some town that has the proper conveniences, without very great effort; and if it is not too soon I would suggest that we have a convention at Higginsville, where, I'm satisfied, we could be furnished suitable accommodations at a great deal less expense than at Independence or Kansas City. I am satisfied that, if we would try, we could get up a convention that would be of assistance to us, in the way of giving us a chance to shoot off our ideas, and air them a little.

#### PREVENTION OF SWARMING.

I found a cure for swarming this season by removing most of the capped brood and replacing with empty combs. This plan, if used with judgment, will not interfere with work in the sections, and will prevent swarming if care is taken and plenty of room given as it is needed; but unless you have weak colonies or nuclei to build up, you will increase some, which, if not wanted, can be doubled back into the hives as fast as the bees hatch out of the combs.

R. L. TUCKER.

Lexington, Mo., July 4, 1889.

### BEE'S BITING HOLES IN CAPPINGS.

#### VALUABLE SUGGESTIONS FROM DOOLITTLE.

I HAVE read the different articles written by friend Manum, in late numbers of GLEANINGS, with much interest, and I find that his mode of working for honey corresponds very nearly with my views on the subject. There is one little item which I wish to notice, however, which must be either a mistake of the typo or else Mr. Manum must have fallen into an error, according to my experience. On page 535 we find him saying to Scott, "No, no! don't smoke them, as that will cause the bees to bite holes in the cappings and spoil the looks of the honey," while a few paragraphs further on, Scott says that the scale hive showed the day before a gain of 18 pounds of honey, so that we infer that honey was coming in very plentifully at the time friend Manum fears that the bees will bite holes in the cappings if the bees were

smoked. Now, according to my experience those bees could not have been smoked enough at that time to make them bite into a single capping; for when bees are getting honey at the rate of 18 pounds a day, nearly every bee is as full of honey as it can well be, hence could have no desire to take more honey, even if it "lay around loose." At such times as this it is only fun to get the bees out of sections, for they are so heavy with honey that a little shaking will cause them to rattle off the combs like beechnuts off a tree when they are fully ripe. Here is a point in bee-keeping which I have never seen noticed that I remember of, which is, that the same number of bees will occupy nearly double the space when honey is coming in plentifully that they do in a time of honey dearth. During our peculiar season, the present year, the bees were nearly starving just before the basswood bloom; and as but little brood was reared 21 days before basswood opened, there were but few bees hatching to replenish those in the hive; yet when they began to get honey from the basswood, the bees which before occupied only the brood-chamber to the hive so expanded that they now filled nearly as much room in the sections as there was in the brood-chamber, or double the room they did a few days before. I do not believe in smoking bees any more than do Messrs. Manum and Root; but in all of my experience I have never had holes bitten in the cappings to honey except in times of scarcity, and in such times it is hardly possible to get the bees off section honey without their doing more or less of this work, unless they are immediately shaken off the honey, or driven down into the hive before the sections are removed.

#### DISTURBING NUCLEI.

On page 533 I see that friend Root was annoyed when raising queens in upper stories by having to disturb his nuclei in the upper hive every time he wished to get to the lower one, and thinks that this is an objection to my plan of working. To overcome this difficulty I tack the queen-excluding honey-board lightly to the bottom of the upper story or hive, so that at any time when I wish to get to the brood-chamber all I have to do is to lift off the upper story and set it to one side, the same as I would do were there no queen-excluding honey-board between the two, nor any queen-cells or nuclei about the hive. When doing this the upper cover is not touched, hence this upper hive is really not disturbed in the least in getting at the brood-combs below. Perhaps it would not be more than right for me to say that, during the time of scarcity of honey, and when it was coming in very slowly from clover, I did not have my usual success in getting queens fertilized in upper stories, so I fear that this part of the plan, as given in my book, may not work with all, especially those who do not have a heavy honey-flow at any time during the year. As I had in previous years sold myself short of bees, and used so many from my stronger colonies to start the queen-business early, I did not tier any hives for extracted honey till into the basswood bloom, hence I had an experience with it only in the height of the honey-flow and afterward. Now that the basswood is in bloom I am having success again. The queens were allowed to hatch as usual before basswood; but when they became three or four days old the bees would begin to persecute them, which finally resulted in their death, and in one or two instances in a general row "upstairs,"



in which many bees were killed. It may also be that the reason lies in the fact that queens are more easily superseded the latter part of the season, that being the time in which the bees do the most of this work where left to do it themselves.

While this part partially failed, the getting of nice queen-cells above the excluders was a perfect success, even when the bees were living only from hand to mouth, as not a single failure occurred.

#### PREPARING FOR WINTER.

Perhaps some will think there is time enough to talk on this subject three months from now; but I wish to say that I have found that August is the month in which we lay the foundation for our success or failure in wintering bees. All colonies should be reinforced and made strong during this month, or in the breeding, not in the fall. If any queens are old and feeble they should be superseded at once, and not wait till into September, for the eggs laid during this month are to make the bees which are to go through the winter—yes, and those that are to do the work the succeeding spring. I had my eyes opened considerably on this point this year. Last year I bought some hybrid bees, one colony of which were nearly black. Into this I introduced an Italian queen the 20th of August; and as she did not breed very much last fall, of course the bees going through the winter were mostly hybrids. I watched this colony very closely, and you can see that I learned something new when I tell you that there were quite a number of nearly black bees going in and out of the entrance July 4th of this year; hence these bees were nearly if not quite ten months old.

G. M. DOOLITTLE.

Borodino, N. Y., July 16, 1889.

#### FOUNDATION VERSUS COMBS.

##### IN FAVOR OF EMPTY COMBS IN THE SURPLUS APARTMENT.

AS Dr. Miller desired a statement from different bee-keepers as to their success with sections filled with old combs left over from the previous yield, I herewith give you my plan: I always have more or less comb left over from year to year. In the fall of 1884 I had 3000 sections partly filled with honey. It was extracted or fed back to the bees. In 1885 there was no honey; 1886, clover yielded enough to rear large quantities of brood, so the 25 old stands swarmed in June. I sandpapered my sections and scratched off the end of the cells  $\frac{1}{2}$  of the way down to the base, and put them on the 25 new swarms. As fast as the bees hatched in the old hive, the bees were brushed off into the new swarm, leaving just bees enough to care for the young queen in the old hive. Basswood opened July 10, lasted 14 days; and those 25 new swarms gathered and stored 3000 lbs. of basswood honey in the 14 days, all sealed. I had over 1000 partly filled sections which were extracted. The old combs looked as fine and white as those just drawn from foundation. In 1887 we had no honey, and not much in 1888. This year I had 30 Heddon supers filled with sections containing old combs. I went through the former method, excepting that I filled a good many crates alternately with old combs and one with foundation. They are still on the hives. The combs are filled with honey, and sealed, while the foundation is fairly worked out with some honey. Some of the old combs are worked away out into

the next section of foundation. I use no separators. I prefer giving supers of foundation to heavy swarms which will immediately occupy them. Basswood will now soon open. It is just loaded with buds.

J. R. REED.

Milford, Wis., July 10, 1889.

Your testimony is strong in favor of unfinished sections. See our remarks at the foot of J. A. Green's article in the current issue.

## HEADS OF GRAIN

### FROM DIFFERENT FIELDS.

#### THE DOVETAILED HIVE JUST THE THING.

THE hives and other goods came all right, and in splendid shape. You beat the world on fine goods at low prices. The Dovetailed hive is just the thing to put bees in; and the section-holders are the nicest arrangement for the double chaff hive, better than a crate. Ten holders put crosswise fill the bill, and a person can get them out easily.

#### SHIPPING BEES FROM NORTH TO SOUTH TO CATCH THE HONEY-FLOW.

If nothing happens to prevent, I want to go to Florida this fall with 200 swarms of bees to catch the honey-flow from orange-blossoms. I have been thinking about the Dovetailed hive ever since it came out. I have been shipping bees in light cases, and I came to the conclusion that I would have the Dovetailed hive shipped in the flat. But since I saw your letter, explaining how it could be used to ship bees in, I think it is just the thing to kill two birds with one stone. You may think I am wild, but I am not. If bees can be shipped from the South in the spring, and do better than bees wintered here, why won't the rule work both ways? They claim the trouble is to get bees ready for the orange-blossoms. I am going to take them there ready for work.

C. E. JONES.

Delaware, O., July 11, 1889.

Yes, sir, friend Jones, the Dovetailed hive will be just the thing for shipping bees from north to south. We should be glad to have you report the success of the enterprise.

#### WHY THE BEES WILL NOT RAISE A QUEEN.

Please unravel the following knotty and to me mysterious behavior on the part of a colony I have. They cast two swarms, and afterward lost their queen (I saw her after she was hatched). I presume she was lost in her wedding-flight. The hive has remained entirely free from eggs or larvæ, showing the absence of even a fertile worker. I gave them a frame containing eggs, which they either destroyed or ate up. I then gave them a queen-cell which they tore open and demolished. I then gave them a frame containing eggs, larvæ, and sealed brood. The eggs were destroyed, and the larvæ, I think, sealed up; but no queen-cell made—we can not find a queen in the hive. All the frames are filled with honey, save the one with brood, I gave. Would it do to give a queen, or break up the colony and combine with other colonies? We can not find anything bearing on this case in the A B C.

W. B. ROHMER, M. D.

Bay St. Louis, Mo., June 12, 1889.

It is not at all unusual for bees to refuse to

accept a queen, after they have failed one or more times in raising one. I should think it quite likely they had something among them that they treated as a queen; and though she never lays eggs of any kind, this bee will be the ruin of the colony if she is not put out of the way. Treat them exactly as you would a case of fertile workers. Give the colonies several frames of brood, with bees adhering, or unite them with a weak queenless colony, which amounts to the same thing.

**BURR-COMBS; CAN THEIR ATTACHMENTS TO THE SURPLUS APARTMENTS BE AVOIDED WITHOUT THE HONEY-BOARD?**

Can we make our new hives so as to discard the honey board and not have burr-combs built between the brood-frames and section-case? If not, why not? Yes. By making the top-bar  $1\frac{1}{8}$  wide by  $\frac{1}{2}$  thick, and closing them to  $\frac{3}{8}$ , you will not have any more dauby messes by tearing off honey-boards, nor will you have any burr-combs built between the brood-frames and the section-case. I used this kind of frame last year, and this in about 80 colonies, and I have yet to find the first bit of burr-comb between. It brings the sections close to the brood-nest, and the bees are quick to enter them.

A. L. KILDOW.

Sheffield, Ill., July 8, 1889.

We do not know but there is something in what you say, friend K. We have a hive out in the apiary, with top-bars  $1\frac{1}{4}$  inches wide, and spaced  $\frac{3}{16}$  inches apart. Although there are fewer burr-comb attachments to the cover it does not prevent them entirely. It has been claimed before, that top-bars one-half or even a full inch thick, and  $\frac{5}{8}$  wide, will do away with burr-comb attachments. We should be glad to hear from others on this point.

**A 5-CENT PACKAGE OF JAPANESE BUCKWHEAT, AND WHAT IT DID.**

Please find inclosed 17 cents, for which send me some Japanese buckwheat and one bee-brush. I planted the 5-cent paper you sent, early in the spring, and saved about a quart of seed. I planted that the first of June, and it is now in full bloom, and very attractive to the bees. I wish to plant some more; and if I wait until the seed matures I fear it will be too hot and dry. I think it is the first buckwheat ever grown in this part of the State, that is attractive both to people and bees. I also have a few of Simpson and spider plants, which the bees do not notice. Mignonette, bee-balm, and bee-clover they are continually humming over.

MRS. ROSE RILEY.

Columbus, Tex., June 23, 1889.

**COMBS BUILT CROSSWISE OF THE FRAMES; WHAT TO DO.**

The first of last month I obtained three swarms of bees from a neighbor, the first swarm I had ever seen. I put two of them in Simplicity hives; the other was put in a box hive with the intention of transferring it. The trouble is, with the Simplicity hives, the frame in one of them got out of place in some manner, and they have built their combs between the frames attached to the slatted honey-board, so that I can not take a single frame out. The frames in this hive had starters in them, and were contracted to six. The other one had no

starters in, but the full number of frames, 10. The bees, instead of building their comb to the comb-guides, built to the space between the frames, so that none can be removed except two on one side that have not been built on yet. Would you advise me to take out part of the frames containing honey, substituting frames of foundation? I want to put Italian queens in them. There is nothing in your book so indelibly stamped on my memory as your advice about starting with a few colonies. There are several small things I have learned, that, had I had several colonies, might have been costly lessons to me.

J. C. SINGLES.

Strickersville, Pa., July 6, 1889.

We should think, from the account you give in your letter, that in one case your frames were improperly spaced. In the other case they were jarred out of position, as you say. Either one would cause combs to be built crosswise, or in between the frames. We would advise you to pull the hive apart, having previously given them a good smoking. Select the cards of comb that have brood in; put them into frames, and fasten them with transferring-clasps, or in any of the ways that are usually adopted in transferring. The combs containing only honey had better be used up on the table as chunk honey. The rest of the space fill up with frames of foundation. Be sure next time to space each frame so their common centers shall be  $1\frac{1}{8}$  inches apart. The tips of the fingers, shoved between the top-bars, will usually make the right spacing.

**DOES IT PAY TO FURNISH ALSIKE SEED FREE TO FARMERS WITHIN A MILE AND A HALF OF THE APIARY?**

I have something over 70 stands of bees. I have an offer from some farmers within a mile of me. They say they will sow all the alsike clover seed that I will furnish. The question is, will it pay?

Sabina, O., July 6, 1889.

N. SHUMAKER.

It is a hard matter to answer your question by a direct affirmative or negative. Perhaps we should say this: That we are in the habit of furnishing alsike clover seed, free of charge, to farmers within a range of a mile and a half of our place. In like manner we furnish the buckwheat. A good deal depends upon your locality as to whether it will pay, and the amount put out. One of our bee-keeping friends—a Mr. Chase, in a neighboring town—buys his alsike and sells it to the farmers at a reduced price. We believe he has within range of his bees something over 100 acres of alsike. Of course, where a bee-keeper is able to sell the seed to the farmers, the question as to whether it will pay or not is not so hard to settle. Generally speaking, however, we think it does pay to furnish farmers within a mile and a half of the apiary as much alsike seed as they will sow.

**BEEES TOO NEAR A HIGHWAY; HOW TO MOVE THEM BACK.**

I live within five steps of a turnpike road, and my bees have been a source of great annoyance to people passing. I have been very uneasy in handling my bees, for fear they might make some horse run away, and do damage. So great has been my



fear that I have not been able to do any thing with the bees. I ought to cut out queen-cells and do a great many other things, but I dare not for fear of the annoyance to passers by. I have had a notion of moving them back about 50 or 60 yards, but I did not know whether I could do it or not. My bees have been unusually cross this year, on account of rainy and cool weather, and at this time of writing they are most of them clustering in front of the hives. They have been dragging out drones for two weeks. If you think I can move them back without any great loss, please tell me how. If I can move them, when would be the proper time. This fall or next spring? I leave bees on summer stands all the winter.

G. W. REAME.

Franklin, Tenn., July 3, 1889.

Under the circumstances we would not advise you to keep your bees in their present location. You had better move them to the back part of your lot, at least far enough from the highway so that no annoyance can occur. It is not usually possible to move bees a short distance without some inconvenience or loss; but if you have only a few colonies I would advise you to move them all back at night, at once. Change the appearance of the old location, and make every thing look as strange as possible. At the same time, make the new location resemble as much as possible the old one; at any rate, put each hive in the relative position it occupied on the old location. If the bees should cluster on the ground near the old location, scrape them up, mix them together, and make a nucleus or colony of them, and take them back among the other bees. For further particulars, see "Moving Bees," in the A B C of Bee Culture. Also see R. Powell's article in GLEANINGS for July 1, p. 531.

#### A VARIEGATED CALIFORNIA GARDEN.

Few people who plant gardens for beauty are aware of the great number of plants with variegated or odd-colored foliage. True, we have many plants which are almost constant bloomers, but a plant with beautiful foliage is itself a flower which lasts through the entire season. Do you wish to plant fruit-trees in your garden? Our beautiful purple-leaved prunus, *Pissardi*, bears a very fair plum; and the fruit of the peach-tree with purple leaves is by no means to be despised. Here in California we have evergreen orange, lemon, and lime trees, whose leaves are most beautifully marked with yellow, white, and green. Some of my apricot-trees are gay with light and dark green variegation.

You can have corn (*Zea Japonica* var.), and lovely foliage beets of half a dozen varieties. Our Chilean beets have been as much admired as any thing we have in our garden. We raised our abutilons, with their beautiful spotted green and yellow leaves, from cuttings. They rooted readily, and in four months were blooming profusely without a drop of water from the time I planted them. I think our dry summers heighten the variegations. I paid a dime for my *Althea* var., but its yellow-white and green leaves are not so pretty as those of the *wiegela* or the very showy *euonymus*. The *wiegela*s grow easily from cuttings too. The purple-leaved *albert* which I bought proved to be plain green; but the purple *barberries* keep their colored leaves the whole year. We have rubber-trees of the glos-

siest evergreen; but when my wife learned that there was a variegated *Ficus elastica*, the glories of the others were faded. Our beautiful green *dracena* was forsaken when I brought home one with red leaves, and our common maples looked faded beside the varied foliage of their Japanese cousins.

Our spotted callas suffer from want of water, and our sun is too hot and dry for the *caladiums*, *crottons*, and the half-dozen kinds of *coleus*. I think the last will do fairly well when it is a year old. *Tradescantia multicolor* fades in our hot sunlight.

Nothing is prettier of its kind than the old-fashioned ribbon-grass; and it stands drouth and heat very well, and keeps fresh all the year with me. My *Eulalia Japonica* looks very much like it; but the *Eulalia zebrina* is an oddity, for its stripes go across the leaf. No other plant is thus marked except one other from Japan (the *Scirpus*).

But if I should tell you all about my acalphas, alternatheras, aloes, amaranthus, stevia, etc., brother Root would surely say, "Waste-basket," so I will just wish, in closing, that you could see our geraniums. Their leaves are gorgeous, and they stand drouth better than almost any other plant, unless it be the variegated myrtle, or vinca.

Springville, Cal.

C. M. DRAKE.

#### EXTRACTING FROM YOUNG SWARMS, ETC.

(1) Do you think it would be safe to extract honey from the frames of the young swarms, after the 1st of August, providing they have plenty of honey?

(2) Do you think bees could be moved a mile at this time of year without their going back to their old location?

F. N. PERDEW.

Henry, Ill., July 18, 1889.

(1) You can extract from surplus frames, but we would hardly advise you to take any from the brood-nest. In most localities, or at least in our own, there is very little certainty in getting very much honey after the first of August. It is safer for beginners to leave the brood-nest alone. If you get a good fall crop, give the bees empty combs in which to put it. These sealed combs will come very handy for distributing stores just before putting bees into winter quarters.

(2) Most of the bees would stay in their new location, although doubtless some would return to their old stands. If you move them a mile and a half, we should expect very little going back; two miles, ordinarily, none at all. If you move them a mile, change the appearance of the old location as much as possible, and in the new location put the hives in the same relative position they occupied formerly. See answer to G. W. Reame, in the opposite column.

#### CLOSED-END FRAMES: FRIEND HEDDON'S SUGGESTION ON P. 536 BEING TESTED.

I notice on page 536, July 1, that Mr. Heddon has exactly described the hive I am using. I never liked the beveled edge nor the Heddon L. hive with the bottom-board fastened, so I made a hive with a bottom-board and cover the same as the patent Heddon. The brood-chamber is 18 x 11¼ x 9 in., which holds 8 frames, the closed end resting on the strip of tin extending in ¼ inch on the bottom end of the hive. This is a reversible frame or hive. I use two of these stories on strong colonies for extracted honey, and a super with sections on top. This hive has given me the best satisfaction of any

I have tried yet. I can winter bees better in this hive than in any chaff hive ever made; in fact, for wintering bees outdoors I would rather buy the above hive than use chaff hives furnished free. I use a single brood-chamber of soft pine, unpainted, for wintering, which is inclosed in another hive one inch larger, or, rather, with an inch air-space between, which gives me a double-walled hive with one inch of dead air space all around. My bees are always strong in spring, and breed up early. This and the Heddon hive are the hives of the future.

Clarion, Pa., July 12, 1889. J. T. FLETCHER.

PURE ITALIAN DRONES; IS THE DRONE ONLY THE SON OF HIS MOTHER OR NOT?

Is the question settled beyond dispute, that a queen of pure Italian pedigree, but mismated, produces hybrid drones, or is it still open to positive proof? I know that several well-known breeders hold they are hybrids, but that's not proof. I am interested in the mother, for the other day I found a young Italian queen, without wings, laying, of course, nothing but drone eggs, and the drones were the brightest of any in the yard. Now, if those drones were good, why should they not be equally so if the queen could have flown and been mismated?

H. F. HART.

Avery, La., July 6, 1889.

It is commonly supposed that the drone is the son of its mother only; but G. M. Doolittle and one or two others have ventured to question this statement. Our experience and observation, however, have rather tended to sustain the statement of Dzierzon and Berlepsch, that the drone has only one parent. Here is a chance for careful experiment.

THE FOOD COMMISSIONER SEEKS INFORMATION IN REGARD TO ALLEGED ADULTERATED HONEY.

Mr. A. I. Root:—Cleveland papers charge that parties are manufacturing an entirely artificial honey-comb from paraffine, then filling it with glucose, and selling it for pure honey, although there is no part of it the product of the bee, or, at least, not more than to give it flavor. I have looked the markets through somewhat in this city, and talked with men who seem to be conversant with bee matters, and I can not find, thus far, any foundation for the articles in papers. It is claimed here, however, that bees are sometimes fed glucose or cane sugar, and an inferior article of honey is produced, also that glucose syrup is added to strained honey. I am anxious to lend any assistance in my power to the consumers and producers of honey, and write you for information. Do you think that honey made from or by bees fed on sugar or glucose could be called adulterated? and do you know whether there is any truth in the charge made in the Cleveland press? Can it be done successfully? and have you any means of knowing if strained honey is being adulterated with glucose? and if so, who is doing it? The whole subject is new to me, and any thing that you may say will confer a favor on all honest producers.

F. A. DERTHICK,

Food Commissioner of Ohio.

Columbus, July 13, 1889.

Upon receipt of the above we replied as follows:

Mr. F. A. Derthick:—As we notice you are the Ohio Dairy and Food Commissioner, we take pleasure in answering your kind letter of the 13th inst.

We inclose you half a dozen cards, offering \$1000 for samples of manufactured comb honey. These cards will give you the whole status of the thing in a nutshell. This offer has been out now for two years; and although we have distributed thousands of them, and although the same has been published in a number of newspapers, no one has even taken the pains to write us that he could fulfill the conditions of the proposal. We also send you a sample copy of our journal, "GLEANINGS IN BEE CULTURE." Please read the article on page 543.

In regard to feeding glucose to bees, we would say it *can* be done, but it would not pay to do so, because it would cost more to get the bees to put the stuff into their nice combs than the bogus article would bring afterward on the market, even if sold at the price of A No. 1 honey. Liquid or extracted honey may be adulterated, but usually there is not enough money in it to do it. When good pure California honey can be bought for 4 or 5 cts. per pound by the carload, it is not at all likely that dealers would go to the trouble of adulterating it with glucose, an article which costs nearly or quite as much per pound. Notwithstanding these newspaper stories to the contrary, you will see that plain common sense, and the application of a little arithmetic, show that very little honey is adulterated. We should be glad to have you use your influence in removing the ban of suspicion from honey.

THAT TESTED QUEEN.

The first queen (tested Italian), received from you May 14, was accepted May 15; introduced to a two-frame nucleus of young blacks. She got down to work in short order, and to-day \$10.00 would not buy her. She has ten frames full of mostly capped brood, and the colony is large enough to swarm. They are always working, while the others lie idly about. The last two queens received from you came in fine order. I introduced by dropping into full colonies immediately after catching the old queen. I can always tell by the way the bees act whether all is well. One came out and flew around four times, and doubtless would have been flying yet, but I caught her and clipped a wing, and that settled it. This has been

BY FAR THE BEST SEASON

we have had for some time, and honey has been produced by the ton. Just here harvest is about over, and drones are scratching, but the Italians are very busy. In the timber, however,

FIREWEED

is at the best, and bees are very busy. Oregon is slow to adopt modern appliances, and but few enthusiasts are to be found; but as the State fills up we shall be able to give better reports.

Portland, Or., July 11, 1889.

E. J. LADD.

JAPANESE INFERIOR TO SILVERHULL BUCKWHEAT FOR HONEY.

Well, Uncle Amos, I have just come in from the buckwheat. It is in full bloom, and there are ten to one more bees on the silverhull than on the Japanese. It was so last year on my place; but the Japanese was so boomed through GLEANINGS I thought I would hold still for a while; but when the same thing occurs again with the two kinds side by side, on the same kind of ground, I wondered if the booming had not been a little strong, in order to sell the stuff. The Japanese stands up some better and gives longer, larger grain, and will



bloom a little longer, and perhaps yield a few more bushels per acre; but as a honey-plant, with me the silverhull is far ahead. The 500 sections came to hand all right.

J. W. C. GRAY.

Atwood, Ill., July 10, 1889.

Your experience doesn't seem to agree with others'. The Japanese, according to most reports, has fully equaled the other buckwheats as far as the yield of nectar was concerned; but in grain yield, in every case it has been vastly ahead. We should be glad to hear from others as to the comparative yields of nectar.

TO GET THE BEES TO CAP THE TOP ROW OF CELLS.

I can't get my bees to cap the top row of cells in the sections which are in T supers. What can be done to remedy it? I couldn't find any thing about it in the A B C.

C. F. MCCOLM.

Lexington, Ill., July 10, 1889.

We sent the above to Dr. Miller, who replies as follows:

The T super differs in no respect from wide frames or other receptacles with regard to finishing sections. The upper part of the section is sealed over before the lower; but as a general rule the row of cells adjoining the wood at top, bottom, and sides, remains unsealed. Sometimes they are filled with honey, and sometimes left empty. I do not know what the conditions are, to secure the complete sealing of this outside row of cells, and I shall be glad to hear from any one who does. Perhaps a heavy flow of honey and a somewhat crowded condition in the hive is all that is necessary; but the majority of sections have this outside row of cells uncapped, whether raised in T supers or what not.

Marengo, Ill.

C. C. MILLER.

WINTERING QUEENS IN NUCLEI.

Is it possible to winter queens in three-frame nuclei, such as I have ordered, to have for building up in spring? A B C and Root's Quinby do not mention it. Is it now too late, if possible? My single box colony has grown to 6 very good ones; 2 are rather strong, and working in the sections—induced to by Dr. Miller's plan. I shall increase to 15 or 20 next year.

J. B. ENOS.

Connellsville, Pa.

Yes, it is possible to winter queens in 3-frame nuclei, providing that the same is packed in chaff hive, between two division-boards, or providing they are to be put into a good dry cellar; but it is usually better to have a stronger colony—one that will cover 6 frames will usually winter very successfully. We have wintered a great many 3-frame nuclei in chaff on their summer stands, but we prefer stronger colonies.

SERIOUS STINGING IN THE THROAT, BUT NOT FATAL.

A neighbor of mine who keeps a lot of bees in box hives wished me to take some honey out of the top they had made there. I smoked them and took a long knife and cut out the combs, which contained honey and some brood. When I had finished he gave me some of the honey to take home, and that honey came very near being the death of my wife. She put a piece of the comb in her mouth; and as it so happened one of the cells contained a bee, which stung her on the tongue, which swelled so large, and her throat also, that she came very near dying from suffocation. She could hardly speak so as to

be understood. You can just think how much I thought of bees about that time. But the good Lord spared her life. I wish you would print this in GLEANINGS, as a warning to others to look out.

Durham, Ct., July 10, 1889.

C. L. ROSE.

BEES IN A HOLLOW ROCK.

I have a ranche in Texas, on which there is a cañon about 100 feet deep, and about half way up in one of the solid walls there is a hole in which I have seen the bees coming and going in a stream about as big around as a barrel. It has never been robbed, as no one can get to it without infinite trouble. I have written you for a smoker. I have one hive here in the city, and four in the country. I think I shall get more. The hive here is doing famously. I see the bees rushing in, loaded down with honey. They beat any thing I ever saw for hard and hurried work.

A. L. REDDEN.

New Orleans, La., June 29, 1889.

There are several places in California such as the one you mention; and one place was pointed out to me where a man lost his life in attempting to take out the honey. The bees went at him in such numbers, and stung him so fiercely, he lost his hold and fell upon the rocks. Where you speak of a stream of bees as big as a barrel, I suppose you mean that a space equal to the size of a barrel is pretty well filled with bees on the wing, going to and fro.

J. D. FOOSHE EXPLAINS.

I shall be glad if you will say that I have never seen Mr. Doolittle's book. I read last year in GLEANINGS, I think, where he gave his plan in detail as to how he reared his queens by nature's plan. At that time I think he said that he saved all the old cell-cups, and transferred eggs or larvæ; and this year, in the *Queen-Breeder's Journal*, I read another article giving the same plan, with perhaps his plan, of using the manufactured queen-cell cups, in which he said he transferred larvæ and had cells built out in upper stories, with queen present. I tried transferring eggs, or larvæ, to old cell-cups, and made such a poor success that I thought of the plan of letting bees start cells and transfer them to upper stories. I gave friend Doolittle credit for my plan for it was suggested to me by him. Friend D. has a masterly article in the April number of the *Queen-Breeder's Journal*, upsetting the Dzierzon theory. I can't help but believe he is right, so far as my experience goes.

Coronaca, S. C., July 8, 1889.

J. D. FOOSHE.

NATURAL HONEY-COMB WITH SQUARE CELLS.

I have a piece of new honey-comb made entirely by the bees, the cells of which are square (4-sided), and the bottoms of the cells are quartered instead of being in three parts; there are about 50 contiguous cells like this, and the surrounding comb has regular 6-sided cells. Is this new, or does it often occur?

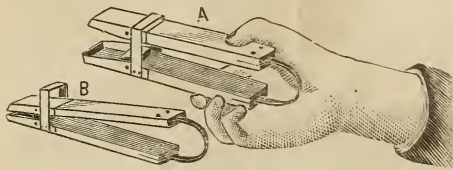
C. W. COSTELLO.

Waterboro, Me., July 3, 1889.

In the experiments made with plates for foundation, some years ago, considerable foundation was made with the cells square; and reports were made through the journals that the bees used it just as well as six-sided foundation. As, however, nothing was gained, but something lost, the idea was dropped.

## A NOVEL BEE-CATCHER.

Herewith I send you a sample of my bee-catcher. Well, who has got it patented? If by any possibility nobody has, then, if you wish to, you are at liberty to make and supply all demands.



ANDRUS' BEE-CATCHER.

It is convenient for picking bees off the windows and turning them outdoors, or, better, putting them in a box like the one in which this is packed, and then step to the door and let them out. Take the ends *only* off the box, and pull out the catcher.

Almont, Mich., May 19, 1889. J. H. ANDRUS.

The bee-catcher sent by friend A. is a very ingenious and pretty little machine; but I think very likely they will prove to be more convenient for the women folks than for a genuine bee-keeper himself. They might serve very usefully, not only in getting bees off the windows, but for picking up and removing any bug, worm, or spider that might invade the home.

## HONEY FROM TOBACCO.

In GLEANINGS for July 1st are some comments upon bitter honey. I wonder if you ever stumbled upon honey gathered from a tobacco-patch, when other sources were lacking—perfectly clear, decidedly bitter, genuine to a T. This may have been the cause of much of the bitterness alluded to in your journal. I notice the bees prefer to gather water from the outlet of a certain tile, although there are many other outlets *never* visited. I wonder if they distinguish any chemical properties from this percolating through certain strata.

Assumption, Ill., July 12, 1889. W. N. ROOT.

## OLD COMBS IN SECTIONS.

As you ask for testimony from experience, I will say I have used sections filled with comb, for the past 8 years, and I can not get enough of them. I always get the highest price paid in market for my honey, and we use a large amount at home; and while we object to foundation honey, we see no fault with old comb. If I use foundation at all it is only as starters. I usually raise my starters in the bee-hive, according to G. M. Doolittle's plan. Old comb should be entirely clean from old honey.

Grattan, Mich., July 8, 1889. A. P. COWAN.

## THE T SUPER.

As I use a lot of T supers I will give my plan how to keep the sections down to their place, and at the same time protect them from propolis. I put T tins down from the top between the section rows; this is not new, but you know some of the sections will spring up—that is, they are not square. To keep the T tins down I lay  $\frac{1}{4}$ -inch tacks, one on each end of the T tins, with the points toward the sides of super. With one-hand I press the T's down, and with an iron or an eight-inch file I press the tacks in the wood, which keeps the T tins down.

La Paz, Ind. C. A. BUNCH.

The same idea has been suggested before,

## REPORTS ENCOURAGING.

## PROSPECTS GOOD.

THE prospect for a crop of honey during the next three months is very good. I have 170 hives, about one-half one story, and weak at that, as the bees do not gather honey much in June, and about June 1st they kill their drones, and the queen sometimes stops laying. This year they gave us a few eggs all the time, but did not lay more than half their usual amount. I have just finished extracting 170 gallons of choice honey, and the prospect is good for 15 tons extracted and 2 tons comb honey this year.

G. W. CAMP.

Armona, Cal., July 10, 1889.

I took from two colonies last summer nearly 300 pounds of honey. Around here, if they get 10 pounds they think they are doing well.

Marshalls Creek, Pa. J. GILBERT.

## BOOMING.

Bees are just booming at this date. I wintered 14 colonies in your one-story chaff hives. They began swarming May 5th, and increased to 31 by June 28th. Bees in this section have had a great swarming mania this season.

F. W. LAMM.

Somerville, O., July 15, 1889.

## "HONEY UP TO OUR CHINS."

The wax-extractor is just rolling out the yellow stuff. The strainer is "boss," and our "other half" says, "Bless Mr. Root;" and whoever saw a better smoker? We are in honey up to our chins. I will ship you some beeswax soon.

D. H. TWEEDY.

Smithfield, Ohio, July 13, 1889.

## HONEY FLOWS LIKE WATER.

I am rushed to death. Honey flows like water. I have taken off 2000 lbs. of white-clover honey. I have 75 swarms now. I had 15 swarms to-day. If I did not understand some of the habits of bees I should get clogged up; but so far every thing is lovely, and every bee doing his level best. Basswood is not yet open. When it opens I shall have eave-troughs on.

E. A. MORGAN.

Chippewa Falls, Wis., July 3, 1889.

## A BIG YIELD; 200 LBS. PER DAY FROM 25 COLONIES.

I suppose you begin to think my orders are coming thick and fast. If you were in my place you would not wonder at it. My bees are gathering in something like 200 lbs. of honey per day, and part of them are out of storage room, and building comb on the outside of their hives. I never saw such a honey season. I started in with 25 good colonies and 3 very poor ones; I had 58 supers filled with sections and starters, and have 62 very strong colonies now. We had some heavy rains, which insures a good fall crop of honey.

J. A. MAXFIELD.

Saxon, Ills., July 15, 1889.

## REPORTS DISCOURAGING.

## LITTLE SWARMING OR SURPLUS.

I had 31 colonies, spring count; very little swarming; and as to honey—well, I have not enough to supply my table. Except one hive there is not 10 pounds of surplus on hives; i. e., on all, old and new.

G. F. AYRES.

Atherton, Ind., July 5, 1889.



## OUR QUESTION-BOX,

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked, "For Our Question-Box."

QUESTION 137.—*a. Do you practice clipping queens' wings? b. If so, do you do it because it saves trouble in hiving the swarms, or because it prevents absconding, or both?*

No.

H. R. BOARDMAN.

a. I do not.

RAMBLER.

a. Yes; b. Both.

GEO. GRIMM.

a. Yes; b. Both.

A. E. MANUM.

a. Yes; b. Both.

A. J. COOK.

a. Yes; b. Both.

S. I. FREEBORN.

a. Yes; b. To prevent absconding.

P. H. ELWOOD.

a. Yes, invariably. b. For both reasons.

P. L. VIALLO.

I practice nothing of that sort, and am not troubled much with swarming.

C. F. MUTH.

No; we never clip wings. We tried it, and got disgusted after two seasons.

DADANT & SON.

a. Yes. b. To prevent absconding. I very rarely hive a swarm, as, three days out of four, no one is present in the apiary.

C. C. MILLER.

a. No. b. I found more trouble in taking care of my swarms when the queens' wings were clipped than when they are not. It might be different, however, in less favored localities for hiving swarms.

JAMES HEDDON.

a. Yes. b. For both these reasons; but they are only secondary ones with me, as I have too little natural swarming to require any special attention to that subject. By clipping her wing we keep track of the queen, which allows us to practice certain methods of management on a certainty, instead of by guesswork.

O. O. POPPLETON.

a. Yes, and it pays well. b. It does both if properly done. Four years ago my best colony swarmed, and left without clustering. One of the queen's wings was clipped, but not short enough to prevent flying slowly; but they went over a piece of woods filled with undergrowth, so we could not follow them, and I lost them.

A. B. MASON.

Principally because it saves trouble in hiving swarms. I do not know that I ever had a swarm abscond, even when my queens' wings were not clipped, and I never knew more than one to make any great effort to do so. Several important advantages are gained by clipping queens' wings, in comparison with which I think the disadvantages hardly worth mentioning.

J. A. GREEN.

a. We clip all our queens' wings. b. We do it to make sure that no swarms go off in our absence. We have no one to look after the swarms or care for the bees in any way when we are not there. Our visits to each yard, during the swarming and extracting season, are from a week to ten days apart. Very seldom do swarms come out while we are away. We make all our increase by division of the old colonies.

E. FRANCE.

a. Yes. b. Both, and more especially because the queen is so much more easily found, if she has the larger part of all of her wings off, as I always cut them. In strengthening weak colonies, and in many other operations in the apiary, it is often necessary to find the queen; and any thing which facilitates our finding her, helps just so much in our work.

G. M. DOOLITTLE.

a. I have, the past two years. b. I seldom if ever have absconding bees here, perhaps mainly because there is no cave or trees to enter, and I sometimes wonder if they are not somehow held back by the great throng of bees at home. I clip wings to help control swarming. I am not positive yet that I shall always keep it up for that purpose, and to enable me to know my old from my young queens when I wish to displace old ones.

R. WILKIN.

I do not. I have never been troubled by bees absconding, or "going to the woods." My experience, extending through many years and many hundreds of swarms, leads me to believe that first, or prime swarms, invariably cluster, after leaving the hive, and that in cases reported of prime swarms leaving without clustering, they had been out before on some previous day, or even the same day, clustered, and, being unobserved, returned to the hive on a second swarming. Such swarms will frequently leave without clustering.

MRS. L. HARRISON.

I am an anti-clipper, largely because I greatly dislike to have swarms enter other colonies, as they will do when compelled to come back by the absence of their queen. Clipping has no effect upon that abnormal disposition to swarm known as swarm-fever, unless it be to make it worse; and the great host of second swarms, and thirds and fourths, of course have virgin queens that must not be clipped. In apiaries, where swarming is usually moderate, clipping is a practical method, no doubt.

E. E. HASTY.

Most of the respondents practice clipping queens' wings, both because it saves trouble in hiving swarms, and because it prevents absconding. James Heddon, Dadant & Son, H. R. Boardman, Rambler, Mrs. L. Harrison, and E. Hasty, are anti-clippers, in the words of friend Hasty. For those who produce extracted honey, and, as a matter of course, keep strong colonies, clipping queens' wings is not so necessary, as very few swarms, comparatively, will issue. But E. France does so because it makes a sure thing of the swarm. With the Dove-tailed hive, we have lately been putting an ordinary queen-excluding honey-board between the bottom-board and the brood-chamber. Unlike the ordinary drone-excluders or queen-traps attached to the entrance itself, it causes no obstruction to the bees passing in and out. While it prevents the bees from absconding with the queen, it also keeps the queen in the hive, with no danger of her being lost. Of course, if the bees should make two or three attempts to swarm in the absence of the apiarist, and fail, they might kill the queen; but this they would not do with a clipped queen, even without the perforated zinc. Those who have a bottom-board with a bee-space formed by a rim around the outside edges, except at the entrance, can use their queen-excluding honey-boards in the way describ-

ed. Perforated metal in front of the entrance will answer the purpose of clipping; but on account of the drones, and the general hindrance of a limited number of holes for the bees to pass, it makes considerable obstruction at the entrance. A perforated honey-board placed directly under the brood-frames is about as perfect as any thing we have ever tried, and it does the business too. In the basswood orchard we have restrained a number of queens in that way.

QUESTION 138 —a. *If you practice clipping, are you not sometimes troubled by queens getting lost in the grass?* b. *Do you estimate that such loss is counterbalanced by an occasional absconding swarm with an unclipped queen?*

a. No.

GEO. GRIMM.

a. Yes; b. Yes, and more.

S. I. FREEBORN.

I do not practice clipping.

MRS. L. HARRISON.

a. Yes. b. Yes, many times over

C. C. MILLER.

I have never had any experience in clipping queens.

H. R. BOARDMAN.

I should prefer to lose a swarm occasionally to clipping the wings of queens.

C. F. MUTH.

Having clipped but very few queens, I do not remember to have ever lost one in that way.

E. E. HASTY.

a. Yes. b. We have so few swarms abscond that it is hardly worth considering as a factor against us.

JAMES HEDDON.

a. No; b. I have practiced this clipping for 20 years, and there has been no loss to counterbalance.

A. J. COOK.

a. Seldom. b. Losses from both of these causes have been too small with me to need taking into account.

O. O. POPPLETON.

a. Yes, occasionally, when too careless. b. Yes, especially now that queens can be bought so cheap all over the country.

PAUL L. VIALON.

a. Yes, especially when we get behind in our work. b. We lose very few, and the loss is not to be compared to loss of swarms.

P. H. ELWOOD.

a. There is no grass in my apiary for queens to get lost in. I should not anticipate much trouble if there were. d. Yes.

J. A. GREEN.

a. I suppose I do not lose one queen in thirty at swarming; but I reckon myself as more skilled in finding queens than in any other part of my business.

R. WILKIN.

a. No. What on earth do you suppose I want grass around for—that is, tall enough for that purpose? One of friend Root's 12-inch \$4.30 lawn-mowers does away with that nuisance, and makes "flings look beautiful" in the apiary.

A. B. MASON.

a. No, not when the attendant attends to business. b. Yes, as the loss of a queen at swarming time is of but little value, compared with a swarm of bees, as queens and queen-cells are plentiful at this season, or ought to be, in every well-managed apiary.

A. E. MANUM.

I formerly clipped all queens' wings; but in swarming, unless the apiarist was looking at the yard all the time, queens were liable to get lost. If an apiary is run in a common-sense manner, there

is no swarming to contend with, and no loss of queens. The Rambler has had but one swarm in the past three years, and that swarm came from somewhere else.

RAMBLER.

a. No, I have lost but one queen in this way in an experience covering a period of 19 years. If you do not allow the grass to get tall, and no apiarist should so allow, there should be no trouble in finding queens. b. I have lost only the one queen as spoken of above, and not a single swarm by absconding, so I shall keep up the practice of clipping the wings of my queen, as I believe it is very profitable for me to do so.

G. M. DOOLITTLE.

We do sometimes lose a queen when swarms come out in our absence; but we lose but very few in that way. I would rather lose 20 queens than one swarm during our swarming season. The loss of a swarm is the loss of the honey that they would have gathered, but the loss of a queen at that time is no loss at all, as the eggs laid now would not be hatched in time to gather any of our surplus honey. Our surplus-honey season closes with the basswood. If a queen is lost during our honey harvest, the bees have plenty of time to raise another. We want our workers all hatched before the middle of June. From the middle of June to July 15 I would rather not have any brood to feed, and we often cage queens to prevent raising brood at this time, as our honey harvest is short and we want to make the most of it.

E. FRANCE.

## NOTES AND QUERIES.

We solicit for this department short items and questions of a practical nature; but all QUESTIONS, if accompanied by other matter, must be put upon a SEPARATE slip of paper with name and address.

### HOW TO BURN SULPHUR.

The best way to burn sulphur is to melt it over a fire and dip strips of muslin in it. The muslin will burn like a tallow candle, and burn all the sulphur it will take up. Make a trial and satisfy yourself.

Souderton, Pa., June 18, 1889. M. B. BERGEY.

### THE BEST LOCALITY FOR HONEY.

What portion of the United States do you consider best for the abode of a bee-keeper, every thing considered?

A. M. DOTY.

Kansas City, Mo., July 12, 1889.

[Southern California and Southwestern Wisconsin are as good as any. All the Northern are good honey States. As to your own State, you *might* not better yourself if you moved.]

### HOW TO SILENCE THE BOGUS-HONEY STORIES.

I see a great deal in GLEANINGS about adulterated honey. Now, there are some right here who believe that honey and comb can be manufactured. I argue by the hour some days, and tell them you will give them enough to get married if they can prove it.

J. G. EARL.

Arden, N. Y., July 8, 1889.

### THE QUEEN-EXCLUDING HONEY-BOARDS DO THE BUSINESS.

The No. 1 honey-boards, 15 x 17½, are the finest thing for raising extracted honey I have ever seen. I used the fifty I had of you in May, and used full frames of comb in upper hive, and not any brood above in one of them.

J. H. HAIGHT,

Brothertown, Wis., July 8, 1889.



## ANOTHER ONE GONE.

Our good friend and bee-keeping brother J. Vandervort, of Laceyville, Pa., has lost his beloved wife after years of suffering. She died of consumption on the 12th inst. The blow is none the less because our friend was long prepared for it. Our hearty sympathy is extended to him in this sore affliction.

C. P. DADANT.

Hamilton, Ill., July 19, 1889.

## SULPHUR FOR FUMIGATING.

Take a common iron pan; to every teacupful of sulphur put a tablespoonful of alcohol in the center. The sulphur must be thoroughly dry. It can not be too dry to burn up clean. Damp sulphur will not burn well, and will run. It is not necessary to have a great draft. It will burn with a little draft.

M. H. MENDLESON.

Ventura, Cal., July 3, 1889.

## STINGLESS BEES.

Have you ever seen any stingless bees? Gov. B. F. Flanders, while in Mexico, saw several hundred hives (the hives being merely hollow logs piled one on the other, pyramid shape), and the bees were stingless.

A. L. REDDEN.

New Orleans, La., June 29, 1889.

[We have never seen any stingless bees, friend R.; but our correspondents have before mentioned the fact that they were pretty common in Mexico. They are of little practical value, however. The amount of honey they gather is insignificant. Like some human beings in a warm climate they live only from hand to mouth. A Mr. Grouen, writing from Brazil to one of the German bee-journals, speaks of 18 kinds of bees, the greater part of which are stingless.]

## SWARMING OUT AND TAKING THE HONEY WITH THEM.

We had a swarm of bees that came out the 26th of June. We hived them, and they went right to work carrying honey from the hive they came from into their own, and kept it up two or three days. Now they are all right.

W. BURGESS.

Kansasville, Wis.

[What you mention, friend B., is very singular, although I believe that such things have been recorded once or twice before—a new swarm going back to the parent hive and carrying off its supplies. It has happened, I believe, however, only when there was a dearth of honey after the swarm goes out. If that state of affairs should continue, of course the parent hive would be likely to starve. When the honey-flow commences again, this borrowing from the old folks ceases.]

## SPIDER PLANT, ETC.

Do you still find spider plant as productive as indicated in the A B C of Bee Culture? The cut illustrating the surprise of Novice, old Sol, and the bees, presents an amusing tableau. What plants are best adapted to rather light sandy loam soil? What of the Simpson honey-plant? J. H. HOAG.

Waterford Works, N. J., July 2, 1889.

[We still find the spider plant as productive as mentioned in the A B C, providing it is on very rich ground, and has good cultivation. Such ground, however, if put into strawberries, would give a yield of 100 bushels or more per acre; and so far the 100 bushels of strawberries has proven to be much more profitable than the honey from the spider plant. With the latter, however, the bees gather the crop without expense. With the strawberries you have to have a swarm of boys and girls.]

## MINERAL WAX.

I was very much surprised to see your inquiry about mineral wax in GLEANINGS. Near Boryslaw, Galicia, 50,000 hundredweight of ceresin is dug out every year. It is called, when raw, ozokerit; after

being refined, crosin, ozo-cerotin, or ceresin. Wax is taken from *Myrica cerifera* and *Myrica Carolinensis*, etc. There are about six different kinds of vegetable wax. It would make a long and interesting article for GLEANINGS.

PAUL PEINE.

Martinsburgh, W. Va., July 22, 1889.

## ANSWERS TO QUESTIONS

## FROM OUR A B C CLASS.

This department is designed primarily to cover questions either not already answered in the A B C of Bee Culture (price in cloth \$1.35), or, if incorporated in this work, are here dwelt upon more in detail on account of the importance of the question. While these answers are of vital interest to the A B C scholars, they will doubtless be found, in many instances, to be of considerable value to the more advanced student. For lack of space, the question itself, instead of being directly stated, is omitted, the same being implied in the answer. It is hoped that the class will first consult their text-book before sending in their questions.

*G. C., Connecticut.*—If your bees are lying out, smoke them in and give them a little more room, adding a super, if they have not one already. Sometimes it may be advisable to lift the cover up a little temporarily, to give the bees a little more ventilation.

## TO GET RID OF ANTS AMONG THE HIVES.

*J. K., Missouri.*—To keep black ants out of the hive, get rid of the ant-hills in the immediate vicinity by pouring on them coal oil. Mr. A. E. Manum recommends putting pieces of tarred paper on top of the brood-frames.

## TO MAKE SWARMS STAY AT HOME.

*R. A. T., N. Y.*—We can not discover anywhere in your letter that you have taken the precaution to put in a frame of unsealed brood into the hive where you put your new swarm. If you are troubled by the swarm leaving, try the unsealed brood, and you will be surprised to see what an effect it has in holding them. It is not infallible, but it exercises quite a stay-at-home effect on the bees.

*J. W. M., Pennsylvania.*—We have seen chilled brood that looked in every way like foul brood, with the exception of the dark-brown color and the ropiness. We should rather incline to the opinion that your bees are affected with chilled brood were it not for the fact that you say it is spreading. Taking it all in all, we should say it is foul brood. To further assist you, please read the article, "Foul Brood," in the A B C book which we send you.

*A. Y. B., Illinois.*—The latest edition of our A B C of Bee Culture gives very full directions how to get bees into the sections. A recent article from G. M. Doolittle recommends placing a small piece of drone brood in the surplus apartment. Bees will not enter the sections unless honey is coming in at a pretty good rate. The colony should be strong. When we say "strong" we mean 6 or 8 pounds of bees. There should be so many they can hardly be accommodated in a single story.

## A SPECIMEN OF FOUL BROOD.

*J. W. M., Pennsylvania.*—Your sample of brood came to hand. After carefully examining it we can not be sure even now that you have real foul brood. The odor from it is more distinct and permeating than that from the disease which we have had. It can scarcely be called ropy, yet it has somewhat of this characteristic. As you say it is spread-

ing, it is quite likely you have foul brood. We should be glad to have you keep us posted in regard to it. If there is some disease which is very similar, or akin to the disease which we have had, we should like to know it.

#### DRONE-CELLS FROM WORKER FOUNDATION.

A. W. G., *Wisconsin*.—Bees will seldom work worker foundation out into drone comb. Sometimes, when the foundation is not wired, it sags, and the cells elongate, and the result is drone-cells, or at least the same are sometimes filled with drone brood. If the foundation is wired, and there is a young queen in the hive, you will not get a single cell of drone brood; in fact, you will rarely get drone comb out of worker foundation under any circumstances.

#### SWARMING AS A RESULT OF A SURPLUS OF CELLS.

C. F. S., *Massachusetts*.—The reason your bees swarmed is because you allowed them to build queen-cells. Immediately after the issue of the first swarm you should have examined the parent colony, and pulled out all the queen-cells but one. As long as there is a surplus of young queens or cells, so long, probably, will you have swarming. If they still continue to swarm, give them a young laying queen, and they will be likely to settle down to business. The latest edition of our A B C book will give you further hints on this point. Please read "Swarming and its Prevention."

#### CAN THE PURITY OF AN ITALIAN QUEEN BE DETERMINED BY HER LOOKS?

C. M. H., *Wisconsin*.—The queen and your letter came to hand. Allow us to correct the wrong impression that you have. Pure Italian queens vary in color, all the way from black to a bright golden yellow. In fact, the Italian queens are the most variable in color, stripes or no stripes, of any race of queens. It is utterly impossible to say from looks of a queen whether she is Italian, hybrid, or black. Her purity must be judged entirely by her progeny—the number of their yellow bands, their disposition, etc. The other colony which you speak of, which were first Italian, and then turned out to be blacks, probably lost its Italian queen, and the hybrid was reared in its stead.

J. L. U., *Mississippi*.—The Golden bee-hive is a swindle, and the venders of the same are rascals. The less you or anybody else has to do with them, the better. You can make any hive you please, and they have no right to interfere. If they threaten you with suit, tell them to come on. They will do nothing but talk. Their hive is virtually the Langstroth hive, as Prof. Cook says, and this hive is the property of the world. The Golden bee-hive people may possibly have a patent on some insignificant feature of the hive, but that need not trouble you. If they are going to enter suit so fast, tell them to sue A. I. Root. He is one of the biggest infringers on their alleged patent, and we do not care if you show them this letter. We have published the Golden bee-hive as a swindle for years. They work only in localities where the people are ignorant of modern apiculture.

#### HOW TO ITALIANIZE ECONOMICALLY.

O. B., *Kentucky*.—The best way to Italianize is to purchase three or four untested queens of some reliable breeder, if you want to do it with as little money as possible. After these have produced a

lot of Italians, are populous and strong, give to each of the queens a frame of drone brood; cause as much Italian drone brood to be raised as possible. In the meantime, keep all black-drone brood shaved down. If you have any black drones flying in the air, trap them with perforated zinc. After you have raised a lot of Italian drones, start raising young queens from your tested Italians. These will probably be fertilized by the Italian drones. If your neighbors have black bees in box hives, put perforated zinc successively in front of each hive until you have trapped out all the flying drones. Your neighbors will not object if you tell them what you wish to do. We can not very well send you drones by the pound; but you can rear them in the way stated above—enough so to make quite a decided showing of pure Italian queens from those you raise.

#### FOUNDATION IN HIVES SET UP; GLASS IN THE SIDE OR ENDS OF HIVES.

L., *Pennsylvania*.—We do not furnish foundation for the brood-nest of our regular hives set up, unless it is specially ordered. Foundation is a great convenience, and prevents the comb from being built irregularly; but as it is not absolutely necessary, we do not send it out. In regard to the arrangement of your hives, we would not advise you to put them upon benches. Put them on a nice clean place directly on the ground. Very few good bee-keepers recommend having the bees raised up from the ground. To put glass on the sides of all the hives so that you can see what the bees are doing would make a big bill of expense. The glass would break in shipping, and we can not see that it would be of any particular advantage. If you get more good colonies, we think you will agree with us that we don't want any glass at the sides or ends of a hive. The best way to examine a hive is to open it and pull out the combs. To watch the bees to the best advantage, get an observatory hive.

#### HOW TO MAKE A COLD-BLAST SMOKER CONQUER.

J. E., *New York*.—We do not make any smoker hot blast. If you will use excelsior and sawdust mixed, or even planer shavings mixed with a little sawdust, pack them solid in the fire-box, make a little ventilating hole with a lead-pencil or other instrument through to the grate, ignite with a match, and get well a going, you will have a volume of smoke that is equal to any hot-blast smoker. When we have filled the smoker in this way we have sometimes wished, on account of the abundance of smoke, that there was no such thing as a smoker around the bees. Yes, we have even had to drop the smoker and step a little distance away and get a chance to breathe. The great secret of making shavings and pine sawdust burn is so make a draft-hole right through its center, after packing it solid. As it burns, this hole continually enlarges. Another point: Suppose you have a hybrid colony to handle. They are very cross, and you want an extra amount of smoke. Fill the smoker as before directed; place your thumb over the end of the smoker, closing the nozzle. Work the bellows until the fuel of the fire-box is ablaze, and the flame shoots out at the rear end of the smoker. Now then: Turn on your hybrids; and if you can not conquer them, smoke will not do it. You may think you would burn yourself to close the orifice to the smoker with your thumb, but you will not.



## TOBACCO COLUMN.

CONDITIONS UNDER WHICH WE GIVE SMOKERS TO PERSONS WHO STOP USING TOBACCO.

First, the candidate must be one of those who have given up tobacco in consequence of what he has seen and read in this department. Second, he promises to pay for the smoker should he ever resume the use of tobacco in any form, after receiving the smoker. Third, he must be a subscriber to GLEANINGS. Any subscriber may, however, have smokers sent to neighbors or personal acquaintances whom he has labored with on the matter of tobacco-using, providing he give us his pledge that, if the one who receives the smoker ever uses tobacco again, he (the subscriber) will pay for the smoker. The one who receives the smoker in this case need not be a subscriber to GLEANINGS, though we greatly prefer that he be one, because we think he would be strengthened by reading the testimonials from time to time in regard to this matter. The full name and address of every one who makes the promise must be furnished for publication.

### THE UNION IN TOBACCO.

Come, one and all, and hear me tell  
How those who smoke can ne'er do well;  
They smoke that they may taste and smell,  
And for tobacco they will sell  
Their rights to social union,  
Their rights to social union.

They clean their pipestems with a wire,  
Then fill the bowl and stick in fire,  
And smoke till it doth quite expire;  
Nor do they ever seem to tire  
Of this tobacco union,  
Of this tobacco union.

Sometimes from two to ten you see  
Collected in one company,  
And all agreeing in high glee,  
To have a jolly smoking-see,  
A jolly smoking union,  
A jolly smoking union.

And as they smoke the fumes arise  
Like morning mists beneath the skies;  
Then woe to him who bath weak eyes,  
Unless he gets him up and hies  
Away from such a union,  
Away from such a union.

Some folks there are who smoke and chew,  
Tho' oftentimes it makes them spew,  
Makes them drunk as a tippler too.  
And still the habit they pursue,  
And boast of social union,  
And boast of social union.

Sometimes about their neighbor's door  
They cast their quids—two, three, or four,  
And spit upon the hearth or floor,  
Perhaps a pint, or less or more,  
And talk of social union,  
And talk of social union.

Sometimes within the church you view,  
Some persons there will sit and chew,  
And spit upon the floor or pew,  
Until it spreads a foot or two,  
And sing of heavenly union,  
And sing of heavenly union.

The quids are oft so large within,  
The juice runs out and stains the chin;  
And then I always have to grin,  
And think there is no little sin  
In this tobacco union,  
In this tobacco union.

Willow Springs, Mo.

J. S. H. BLACK.

Please send a smoker to my friend M. E. Dickson, of Days, Desoto Co., Miss., who has resolved to quit the use of tobacco. If he commences again I will send you the price of the smoker.

Horn Lake, Miss.

JAMES R. ELMORE.

Please send a smoker to Mrs. S. A. Eley, for she has taken the pledge to quit the use of tobacco; and if she uses the weed again I will see that you get your money.

J. W. TAYLOR.

Hickory Creek, Ark.

I have a young friend who is slightly interested in bees. I have been loaning him GLEANINGS to read. We have lots of talk. I induced him to quit the use of tobacco. He has seen your offer as a pledge, and has requested me to write for it. If he ever breaks his pledge I will send you \$1.00 for the smoker. His address is Jno. T. Dedmon, Navasota, Tex.

W. W. SOMERFORD.

In the May issue of GLEANINGS I notice in your Tobacco Column you offer a smoker to any one who stops using the weed. In case this entitles me to your offer I stand ready to contract with you under the conditions in GLEANINGS. As I have a few colonies of bees I hope to profit by them through your liberal offer of the smoker, and through your journal; and lastly, but not least, quit smoking.

Maple Creek, Neb.

J. H. KLINE.

In your Tobacco Column you state the conditions under which you give away smokers. I read in GLEANINGS how that cancers and other diseases are caused by the use of tobacco. New Year's day, 1888, I thought I would stop the use of the cursed plant. I have abstained from the use of it ever since; and feeling no desire to return to its use, I feel confident that I shall not have to pay for the smoker in the future. You may take my name and use it to the best advantage, as it may be instrumental in inducing others to quit.

Burlington, N. J.

SHERMAN BORDEN.

How thankful I am that there are so many dropping off the filthy habit of using tobacco! and I am glad in my heart that I belong to that little band, after using tobacco ever since I was 13 or 14 years of age (I am now 42). I have read GLEANINGS for some time, and have been a subscriber since January last. I read many good pieces before I came to the conclusion that it was a filthy habit; and seeing that some had used the weed longer than myself, and had given it up, I said to myself, "Why can't I?" So I thought to myself, "I will try, but not in my own strength alone, but ask the good Lord to help me, and take away the appetite;" and I feel to thank him for what he has done for me in this one thing alone, with all the other blessings that come from his bountiful hand. I feel that I owe some of it to you and GLEANINGS. So let others take warning, and don't say, "I can't quit," for that is a mistake; for I have said the same. Undertake it, and ask the good Lord to help and strengthen you, and give you grace to overcome the evil, if it is one, and I believe it is. Now, friend Root, if I am worthy of a smoker, send me one, as I quit tobacco in all forms seven weeks ago; and if I ever take to it again I will pay you for the smoker. I don't want to be hired, or any thing of the kind; but it is to keep me in mind of my pledge. But I have no desire for the weed now, and am determined not to touch it again.

N. J. MCADAMS.

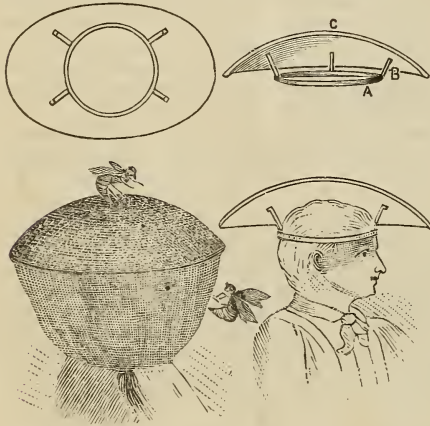
Western, Neb.

## OUR OWN APIARY.

CONDUCTED BY ERNEST R. ROOT.

### THE HOPATCONG; A NEW HAT FOR THE APIARY.

**A** MONTH or so ago, one of our engravers (who by the way is interested in bees), seeing a peculiar kind of hat in one of the shop windows in Cleveland, sent a rough pen-drawing of the same, with a note, asking if such a hat would not be very cool and desirable for a bee-keeper. Upon receipt of this I wrote him, asking him to have one sent, that we might try it. After testing it a couple of weeks in the apiary, during some of our hottest weather, I requested him to make an engraving of it, showing it in different views. This he has done, and I append the result below.



A NOVEL BEE-HAT, ALIAS THE HOPATCONG.

The engraving is so complete as to make a detailed explanation almost unnecessary. You will observe that the hat is supported by a light rim, an inch or so above the crown of the head. Its special feature is the perfect access of light breezes to all parts of the head. An ordinary hat, it should be observed, incloses the top of the head in a tight box, as it were, leaving very little opportunity for the escape of the heat formed by the rays of the sun on the top of the hat, and heat formed by radiation from the crown of the head. The result is that most hats in the hot sun, while they ward off the direct rays of the sun, do not leave sufficient ventilation around the crown of the head. This Hopatcong is very airy; and in practice, I can confidently say, is about as cool a sun-shade as I ever wore. I liked the light cloth hat we advertised, but it was hardly sufficient protection from the sun, although it allowed the breeze to circulate through the light fabric of the crown. I have exchanged hats with different persons, and the verdict is always that the Hopatcong is the coolest hat they ever wore. It is the same sort of hat that we see represented in pictures of scenes in China and In-

dia. Although not a very handsome head protection, it is extremely comfortable; and if the natives of India and China use this hat to any great extent, they have more respect for comfort than some of their more civilized neighbors.

There are two objections to the Hopatcong. While it projects far enough forward and back to properly shade the face and neck, it is hardly wide enough to give sufficient protection to the sides of the neck, as the diagram at the upper left-hand corner will show. Again, it is rather too expensive to be adopted very generally. The one that I wore cost \$2.00 at retail, and I have not yet learned where they can be obtained for less money. I understand that they are being used to some extent in the Southern States, and that they are retailed at a dollar apiece. They can certainly be made for less money; and as soon as the people who are necessarily obliged to work in the hot sun know of their comfort, they will be adopted more generally, in spite of their oddity, I think. Now, please do not send in orders to us for these hats—at least for the present. I am quite sure that you can get them in most cities, and your local retail dealer in hats and caps ought to be able to procure you one if you wish.

### A VERY GOOD SUBSTITUTE FOR THE HOPATCONG.

Just after I had gotten the Hopatcong, our Mr. Spafford, who is in the apiary constantly, struck upon an idea which I think is certainly worthy of being given to beekeepers at large. It is this: He purchased an ordinary palm-leaf hat, but one or two sizes too large for him. He then wet the hat so as to make it assume a conical shape, the same as shown on page 249, 1887, where Dr. Miller is seen emptying a T super of sections. He then took two corks, about  $\frac{3}{4}$  of an inch in diameter. These he cut into halves longitudinally. These four halves were then sewn on the inside of the crown of the hat, equally distant from each other. When the hat is adjusted to the head it is supported from the head by means of these four corks. In other words, the hat itself—at least that part which would ordinarily come in contact with the head—is kept  $\frac{3}{4}$  of an inch away. This leaves quite a good opportunity for the circulation of air around the head. Mr. Spafford and I often traded hats, and I have been surprised to note that his hat was nearly as cool as the Hopatcong, and his did not cost more than about an eighth as much as mine. It had this additional advantage, that the drooping rim thoroughly shaded the head and neck on each side as well as before and back. While all the breeze would not circulate over the crown quite so freely as in the Hopatcong, yet it was decidedly cooler than the ordinary straw hat, where the rim fits closely around the head. On some accounts I should prefer it to the Hopatcong. Now, may I suggest that Dr. Miller take his bee-keeping hat, or, rather, get one a size larger than he ordinarily wears, if he can, and adjust the little pieces of cork in such a way as to keep the hat away from the sweaty head? If he does not think it is a great im-



provement over his old hat, then I will send him my Hopatcong all the way to Marengo, free of charge.

Oh! by the way, as I was wearing the Hopatcong constantly, I very thoughtlessly, on my way to the basswood orchard, one day went through the streets of our village with this odd-looking head protection. I could not quite imagine why everybody was staring at me; nor could I guess, when I got back further into Hoosierdom, why the farmers would constantly look at me. Then I reflected that it was my Hopatcong. Well, I consoled myself with the feeling that I was not considering looks but comfort. I mention this incident to show you that it is an odd-looking hat, and if you wear one you must not be surprised if you are stared at by visitors.

#### THE CANADIAN HELMET.

While on the subject of hats I may mention the Canadian helmet—such a hat as is worn by bicyclists and others, made on the same principle as the Hopatcong, as above illustrated; and if they only afforded a better shade they would be as cool. I have myself worn one during one season; and my brother-in-law, Mr. Calvert, wears one every day (he is a Canuck, you know). As years go by, I begin to see these hats more frequently on the streets. When I visited D. A. Jones, he insisted that I should wear one of his helmets, which I did under protest; but I very soon learned to like it; and after I came home I seized the first opportunity to get one.

#### SWARMING AT THE HOME OF THE HONEY-BEES.

Very soon after the last issue was mailed, swarming began to "let up," and we had only about one swarm a day. We now have none at all. I am satisfied now that our excessive swarming was largely if not entirely due to the number of old queens in the apiary, some being three years old. This apiary, on account of foul brood during last year and the year before, has not been used for filling orders, consequently this year almost all the queens are old.

#### HOW MANY BEES IN A POUND?

A short time ago a prominent pharmacutic concern in the city of New York gave us an order for 1000 bee-stings. Perhaps I should explain here, that from bee-stings a medicine is prepared called *apis melifica*. This medicine is used only by homeopathic physicians, who give it to patients in cases of swellings, skin ruptures, etc. To return: Stings can not be extracted from the bees in any wholesale way. It must be done one by one, and with suitable tweezers. Our method of procedure was as follows: A frame of bees was put in a comb-holder, just before the window. Our Mr. Spafford took a pair of tweezers and grasped the bee by the thorax. A slight pressure caused the bee to protrude its sting a trifle. Another pair of fine tweezers grasped the sting and pulled it out. A cruel operation, you say. Yes, but the bee was crushed immediately after the removal of the sting, by the tweezers holding the thorax. There was no other

way than to count each individual sting as it was pulled out and dropped into a receptacle to receive it. In the tray, after the whole job was completed, we had 1000 stingless bees. These bees were placed on some very delicate scales, and weighed. As nearly as we could get at it, 1000 bees weighed  $2\frac{1}{4}$  ounces, minus their stings; but as the sting itself is such an exceedingly small instrument—much smaller and more delicate than the point of the finest cambric needle, and very much lighter, it would not play any very great part in the weight of the bee. However, it would be fair to suppose that 1000 stings *might* weigh  $\frac{1}{2}$  of an ounce—not more, I think. These bees, at the time of killing, had very little honey in their honey-sacs—about as much as bees usually have when sold by the pound. In round numbers, then, 1000 bees will weigh three ounces. At this rate a pound will contain just exactly 5333. If the bees have very much honey in their sacs, this number would be reduced to something like an even 5000, or perhaps a little less; so it is fair to suppose, under ordinary circumstances, if my estimate was correct, that a pound of bees would contain, on an average, about 5000 bees. For several years back we have said in our price list, "As nearly as we can make out, there are 4000 bees in a pound." In our next edition we will put it 5000, unless somebody makes out that I have made a mistake. I should like to have some one else experiment and see if my figures are correct. There is no practical bearing as to how many bees there are in a pound; but it is interesting to know, when we are talking about the numerical strength of a colony, how many thousand bees there should be in a hive to be able to take advantage of a honey-flow. Some colonies of bees contain 8 pounds, and some even 10; the average working colonies, not much over 5 pounds. The number of bees in a colony might range, then, all the way from 5000 up to 50,000. Now, will not somebody be kind enough to weigh the bee's load, and tell us how many grains or ounces of nectar 1000 bees can carry?

Since writing the foregoing, I discover on page 313 of Dadant's Revised Langstroth that a Frenchman, L'abbe Collin, has found, by careful experiment, that, in a normal condition, it takes about 5100 bees to make a pound. Considering the difference in bees and circumstances these figures are pretty close to mine. He says again, while in a natural swarm supplied with honey it takes less than 4300 bees. Now, on the supposition that the latter figure is correct, how much does one bee-load weigh? Here is a chance for our young bee-keepers to use their arithmetic. Well, I will give my answer. One bee-load weighs in round numbers  $\frac{1}{25000}$  of a pound; or, in other words, it takes 25,000 bees to carry a pound of honey. According to this it must take a tremendous big swarm, say 12 lbs. of bees (estimating 4300 to the pound), to carry on the wing with them even 2 lbs. of honey. It seems as though there must be a mistake somewhere, for an average swarm ought to be able to carry with them more than a pound of honey.

## NOTES OF TRAVEL.

## A. I. Root Among the Bee-Men of Illinois and Wisconsin.

## WHAT HE SAW AND WHAT HE LEARNED.

**I**T is now 15 minutes of train time, on the afternoon of July 11, and myself and Blue Eyes are all ready for a trip. Mrs. Root decided that she could not go this time. My first point is Chicago, and thence to Dr. C. C. Miller's, Marengo, Ill. More anon.

*July 11.*—At Elyria we found the train two hours late, and so we found our way into a meeting of the Salvation Army. I felt that the spirit of Christ Jesus was there, in spite of their queer methods. The leader was a woman of middle age, evidently a hard-working woman; but the earnestness and zeal with which she prayed was hard to be resisted. The audience was few and scattering, but the melody of their simple hymns still lingers in my ear, and, I trust, in my heart also.

*July 12.*—This morning we saw the sun rise on the great grain-fields of the West—the wide acres where bread for the world is grown. How beautiful are the harvest-fields with their modern machinery! The village gardens, many of them, look shabby compared with neat, clean, orderly grain-fields.

*July 13.*—I have been getting an appetite for breakfast by helping friend Miller hoe out one of his little gardens of roses. You see, I am here a week before I expected to come, and so their plans of having the roses (and bees too) all in apple-pie order were rather upset. When I arrived the doctor was at the Wilson apiary; but his good wife sent me over, and I begged to go out among the bees and take them by surprise. The bees were making such a roaring, and the doctor's long hat came down over his face so much, I easily got up right by his side, unperceived. The hat is the one on the table in the picture (see GLEANINGS for 1887, p. 249). I watched him make his examination, but said nothing. Finally he very leisurely straightened himself up, but even then did not see me until he became conscious of a shadow near by; then he gradually tipped back his head until he could look over the apparition that had so noiselessly come close to him. For a brief second he seemed "sort o' dazed," and stared with open mouth in a way that seemed to say, "Well, who are you, and what do you want, and how came you here, any way?" until I really began to fear he wasn't going to be glad to see me; and then what a laugh we *did* have! Miss Emma was but a few feet away; but the roar of the bees, and the fascination of finding T supers with section after section filled and capped over with snowy-white cappings, held her spellbound until I went up and startled her too, by telling her I wanted to see the lady who is not ordinarily very much "stuck up."

Well, Dr. Miller has propolis enough in his apiaries so there is quite a chance to get stuck up, and therefore both of them were

clad accordingly. They didn't expect me for a week, and they were just "going for" the bees, in order to get the work ahead before I came. Some fire had dropped out of one of the cold-blast smokers, and burned a great hole in Emma's dress, and—then we all had another big laugh. She was just under one of her father's own apple-trees, close by her own home; and if she *wasn't* rigged to receive company, it was *my* fault and not hers. Had I knocked at the front door, and then sat in the parlor while she went in the back way and took half an hour to fix up—but I didn't, and I didn't feel bad about it either.

I just got one of the smokers and helped "make honey." I do wish the publishers of the cyclopedias could be with us so as to tell accurately just how honey *is* made. Dr. Miller controls swarming by caging the queen just before swarming time, and keeping her caged ten days. All queen-cells are carefully destroyed when the queen is caged, and when she is let out the bees are shaken from the combs, and a most *thorough* examination is again made for queen-cells. It is some work, but it does the business. As fast as the sections are capped, or nearly all capped, the T supers are stacked up over one of the hives until we get time to carry them away. As fast as one full T super is removed, an empty one takes its place. I tell you, the honey is coming in lively, and we are having fun for sure.

## TAKING HONEY FROM THE HIVES.

Dr. Miller handles T supers only, and no sections are ever pushed out or sorted out in the apiary. When a T super has all the sections nicely capped but one or two, it is removed from the hive. They do not stop, however, to get *all* the bees out, but just drive most of them out with the smoker, and then they are laid up in tall piles over some hive of bees that stands in a convenient place. Here they are left until ready to be loaded up. Then one person stands on a hive or box, so as to hold a smoker easily over the pile, and drives the bees down, while another lifts them off. By this means the young bees left in the supers are all driven down in the hive under the pile, and none are lost. The old ones fly to their own hives if they want to. When all are hauled home, the sections are removed all at once, as we have already described—see page 249, 1887—and the unfinished ones are put in a super, to be put on some hive again.

I have before spoken of the doctor's plan of preventing swarming. Well, there is a sequel to this matter of caging queens for 10 days. When Dr. Miller told me the bees would start queen-cells where a queen is caged and laid between the top-bars, almost as soon as if the queen were removed entirely, I was incredulous. Years ago I found so many times that bees would not rear queen-cells when they had a caged queen in the hive, I had set it down as a settled fact; but right before us were hives by the hundred where the queens had been caged about ten days previously, and I was invited to look them over, and see whether there were queen-cells or not. I had to give up. In thinking the matter over afterward,



I discovered, I think, the reason why my bees built no queen-cells while they had a laying queen in the hive. The doctor commenced caging his queens just when swarming began. His colonies were also crammed with bees and crammed with honey. They were up to swarming pitch, as they have to be to work fairly in boxes. In my experiments, both honey and bees were kept out of the way by extracting and selling bees by the pound.

If no cells are destroyed until 11 days after the queen was caged, most colonies will, during a honey-flow, start a nice lot of cells, and on the 11th day these can be cut out, or, as often happens, you can pick them open and get live virgin queens to introduce to nuclei. We got half a dozen fine queens from one hive where the queen had been caged 11 days before. Dr. Miller keeps some laying queens constantly on hand in nuclei, for emergencies. These nuclei are simple L. hives, with a thin wood division-board in the middle. This division-board is made to stay absolutely tight, by slipping a strip of folded tin on *each end* and the *lower edge*. Now, instead of tacking this tin to the *division board*, it is tacked to the hive, therefore the board can be slid out or put back, and no bee can ever pass under or around the ends. Along the *top edge* of this division-board a quilt, or enamel sheet is *tacked*, so the loose sides will cover the nuclei. The entrances are, as usual, on the portico, only they are as far apart as they can be, while the two nuclei are as close up to the thin division-board as they can be, so as to make them virtually one cluster of bees, so far as saving the animal heat is concerned. I know this is all old, but the doctor uses such nuclei very successfully.

#### A DAY WITH E. FRANCE.

Friend F. has at present seven apiaries, and has extracted 24,000 lbs. of honey. He is somewhat eccentric, as original geniuses usually are. It is amusing to see how widely the *plans* differ among different bee-keepers. Dr. Miller works for comb honey only, therefore he has every thing adapted to it. When I first saw him work I criticised and found fault with a good many things; but when he gave me his reasons for so doing, and especially after I had worked with him one day, I became gradually quite a convert to his methods. Well, it has been so with friend France. The latter produces only extracted honey, and his out-apiaries and every thing else are specially adapted to it. First, he says he would rather have all black bees than either Italians or hybrids; next, he prefers a frame about 21 inches high by about 12 wide, and this frame stands on end. Lastly, he prefers tenement hives, tall enough to take this tall frame, *two stories high*. These hives are so tall and "tower" like, that his boys have christened them "shot-tower" hives. Each hive contains 72 of these great frames, and the outside is all chaff-packed. He has used them now four years, and says all the hives he makes for the future shall be these. He lets the bees have both upper and lower story for winter. He has, of course, rousing colonies, and has never lost a colony in wintering *in* them.

When he extracts a "shot-tower" he sometimes gets a *barrel* of honey. The bees (four colonies to each hive) have entrances on each of the four sides. Each colony has an upper and lower entrance. The upper one at the bottom of the upper frames. The bees work about equal at each entrance.

At Dr. Miller's I found they were using the cold-blast smoker. They were not using them because they expected me to come around there, for I came a week before I promised to. I laughed at them some about it, especially as they had before decided in favor of the Bingham smoker. They said, however, that, after trying first the largest Bingham smoker, then the Clark, and changing from one to the other repeatedly, they had at last settled down in favor of the cold-blast smoker. Please, dear friends, do not think that I mention this solely because I want to recommend the Clark smoker. We bee-keepers, the best of us, have not only lots of notions, but we also change about and get into habits. I am not sure but that Dr. Miller and his helper will eventually come back to the largest-sized Bingham again. At one place where I stopped, when I mentioned that the doctor had laid aside the Bingham and was using the cold-blast, they turned on me so vehemently, and abused the cheap Clark smoker so emphatically, that I was almost sorry I had said any thing about it. A higher-priced smoker *ought* to be better; and for very large apiaries, they will doubtless be considered better in the hands of many; but the cold-blast surely does very well for a moderate number of colonies. But some of the friends of the Bingham will hardly admit that. Now, then, I am coming to a point. What do you suppose E. France, with his seven large apiaries, uses in the way of a smoker? I do not believe you could guess in a week? Well, it is the old-fashioned mouth-smoker, used by Doolittle, only a little bit modified. A block of wood, perhaps four or five inches long, has a hole bored in it, may be an inch and a half in diameter. Near the bottom a small tube is put through the side. The mouth is placed over the large opening, and the smoke is blown out through the small tube. Tobacco is used exclusively, and friend France buys a cheap grade of it by the wheelbarrow-load, if not by the wagon-load. A very little smoke from tobacco, of course, does a very large business with cross hybrids; and friend France has more cross hybrids than any other man in the State of Wisconsin, without question. I at once suggested that his boys would learn to use tobacco by having the mouth so near tobacco smoke. Imagine my surprise, then, when told by friend France that he never used tobacco in any shape. One of his boys admitted that he used tobacco, but he said he did not think that the tobacco smoker had any thing to do with it. This thing is certain, however: A young man who is breaking away from the bondage of tobacco would find it a pretty hard matter if he kept on using friend France's *tobacco smoker*.

When I first arrived I found a good deal of fault with friend France's plans, just as

I did with Dr. Miller's; but after two days of questioning, and practical experience with his hives and fixtures, I began to think that, for extracted honey exclusively, friend France might have decided on the very best arrangement, especially for out-aparies as far away from home as his are. Those immense hives will hold all the honey safely, in case he should have trouble about getting around promptly. The bees never starve, for he winters them with the whole 36 large frames; and when they come to raising brood in the spring they never lack in stores. I am very much inclined to think these great hives have an amount of brood in spring, right along year after year, that we shall seldom get with small hives; and this is one reason why I am very loth to give up the ten-frame Langstroth and adopt the eight-frame. Dr. Miller has cut down all his hives to eight-frames; but he winters entirely in the cellar. Of course, friend France lets his great shot-tower hives stand right where they are placed, winter and summer; and he has no fussing to do from the time honey ceases in the fall until it commences again in the spring. Of course, he does not extract very closely in the fall, preferring to leave them too much rather than not enough. Now, dear reader, before going any further with my Notes by the Way, I want to ask you to read My Neighbors.

## MYSELF AND MY NEIGHBORS.

Thou shalt not bear false witness against thy neighbor.—Ex. 20: 16.

July 16.—While waiting for the train at Woodman I have just had one of the pleasantest visits of my trip. I found some bees belonging to an old gentleman between 80 and 90. While talking with him I noticed an old gray-haired grandma, standing in the back doorway. I wondered if it was likely she would care to talk with A. I. Root; but it has always taken a little effort on my part to make advances toward an acquaintance, even with old people, and I thought once I would not crowd myself into their home. Then the thought came, that, if it were Prof. Cook, he has such a gift that way, he would easily and naturally get acquainted and entertain her. I walked toward where she stood, and very soon her face broke into a smile as she asked if it were indeed true that A. I. Root had visited their home. She is a devoted Christian, and soon I had heard about her children and grandchildren, and especially about one son—the one who first started them with the bees. He succeeded with the bees, became a storekeeper and then postmaster, but finally left their little town of 30 or 40 inhabitants, and went west, where he is still prospering, for he is a God-fearing son.

"Grandma" insisted that I should go down into their cellar and see where "grandpa" did the work. The cellar was dry and clean—yes, cleaner and sweeter and nicer than most of the extracting-rooms I found among a good many bee-men. But I might say this and not say a great deal either; but

this underground extracting-room was a cool and pleasant place wherein to sit down and talk. During exceedingly hot weather I could imagine that it was a very nice place to work, and bees are not very much inclined to go down into a cellar. Before leaving, the old couple, with another son and his wife, with grandchildren, gathered under the trees in front of the little cottage. In my poor way I tried to strengthen their faith in the great Father, and also in their fellow-men. I gave them some suggestions on "what to do, and how to be happy while doing it."

When I got into the town of Woodman I was told I should have to stop three hours. There are only two bee-keepers there; but the landlord told me that six miles further on my road, at Boscobel, there were a great lot of them. Accordingly, after an hour's pleasant chat with the bee-keepers there, I employed a man to take me ahead to the next town, that I might waste no time. He hadn't the change for a five-dollar bill, so I went into a store. The storekeeper did not like to spare his change, but suggested that I might get it at one of the saloons. Now, the town of Woodman has only about thirty or forty inhabitants, probably; but there were two buildings nearly if not quite as large as the dry-goods store, devoted to the saloon business. I told him I did not like to go into saloons, even to get change. I suggested that two saloons for so small a town were about too many; but he did not agree with me. He further added, that people *need not* go into saloons unless they choose, and that, if nobody went into them, there certainly would not be any. My friends, I want you to hold that idea right in your minds. If nobody goes into saloons there will not be any; and if you stop now patronizing and encouraging them they will very promptly stop existing.

Men whom you find around railroad stations carrying passengers, driving hacks, or keeping livery-stables, are not, as a rule, I believe, *godly* men. I do not know just why it is so; but I am sorry that I have found it so; but it seems to be the rule. Of course, I commenced getting acquainted with this new friend, as I always do, while we were on our six-mile trip. I told him I was the editor of a bee-journal, and we talked about bees and honey. Then I spoke of the nice old couple I had just left. Said he:

"Mr. Root, you would hardly believe it, but those old people cheat so fearfully by putting sugar in their honey that nobody will buy it any more."

Of course, I expostulated; but he declared the more vehemently that everybody knew it, and seemed to think that was much the way with people who read the Bible, and sing and pray. I plead for Christians, as I always do. He afterward informed me that these old folks had a son, some little time back, who was a notorious cheat. He kept the store and postoffice. He was right smart, of course, and *got rich* by cheating.

"Why," said he, "it was amazing, the amount of sugar that man had shipped into town. Even the station agent said the quantity was unheard of for a town the size



of Woodman; and what else could it be used for except to manufacture something they called honey, and then make believe the bees gathered it?"

I presume most bee-keepers will readily surmise that the sugar our enterprising young bee-man and storekeeper had brought in was to feed his bees, and keep them from starving during drouths and poor seasons. But his neighbors, especially those who did not know him intimately, would have it that he was manufacturing honey. May be it was wicked, but I led my companion along until he had given the whole family a regular setting-out; then I stopped him.

"My friend," said I, "I have let you talk, and now I want to teach you a lesson. How much does nice white sugar sell for in the town of Woodman?"

He said he did not know exactly, but probably about 10 cents.

"Very good. Now, do you know what they are retailing honey for in your town?"

He saw the trap he had got into, and did not answer. I went on:

"These friends of whom I have been speaking are selling beautiful basswood honey, even by the single pound, for only eight cents. Now tell me, pray, how anybody can buy sugar for 10 cents and put it into honey for which they get *only 8*." He was used up; but he made a faint plea that he was *sure* they put sugar in the honey when the sugar was cheaper and the honey was higher.

Now, dear friends, it is not only the men who drive stages and liveries that are guilty of bearing "false witness" against their neighbors in just the way I have indicated. *You and I* are both guilty of uncharitableness, and of being in haste to think evil in just this line. If I were riding with you an hour I think I could convince you of it, and without question you would have a chance to reprove me, providing I kept talking, as I should be pretty sure to do. It is just this kind of work and just this kind of spirit that have brought things to such a pass as to get these false statements in the papers in regard to comb honey being made of glucose and paraffine. As a rule, I believe that those who lack in education and culture are most guilty. Traveling among people at large, with the right spirit in the heart, helps one to overcome this habit.

Not many days later, another man carried me, with a pretty span of colts, eight or nine miles over the hills. His charges were very reasonable, and he was in many respects a nice old gentleman; but he gave me a glimpse of one of the worst cases of "bearing false witness" I have ever met. Of course, he found out in a very short time that I was a Christian. Then he warmed up and "went" for me. His good wife was present, for she went along for the ride. I turned to look at her face, and it expressed so much trouble as she said, "Please don't; it can't do any good," that she had my earnest sympathies at once. I breathed the little prayer, "Lord, help," and then "went" for him. He attacked professing Christians, declaring our land was *not* a land of

liberty,\* and then pitched into ministers. He said one of their best and biggest ministers around there was detected in horse-stealing, and that five horses were found in his possession. His wife looked pained, and shook her head. Then he said that he had some neighbors across the way who belonged to the church, and read the Bible, and prayed, and sang hymns, yet their children would steal like every thing.

"Oh! no, Mr. F., you must be mistaken."

"No, I am not mistaken. They stole my iron wedges; and every thing they can get their hands on they steal and carry home."

"But, my good friend, their parents certainly would not approve of their stealing. If they knew it they would most assuredly make them carry your iron wedges back again, or any thing else."

"No, they don't. They just encourage them in it, and teach them to steal more."

"My friend, it is possible that a *man* may be so depraved; but I am sure that no *woman*—no mother of a family of children—can go to church, and *sing* and *pray*, and at the same time encourage the children in stealing. Either the stealing would have to be dropped, or else the prayer-meeting would. The two can not possibly exist long together; and the same way with the man who belonged to a gang of horse-thieves. He might have been a good minister once; but when he commenced dishonesty, either the religion or the dishonesty *would have to go*. 'Ye can not serve both God and mammon.' For nearly an hour I repeated text after text. I hurled them at him like clubs, but of course I did it smilingly. He dodged and evaded, then started out on a new track; but I could see that I was gaining ground. I told him of the pious old couple who were accused of adulterating eight-cent honey with ten-cent sugar, and plead for the charity that "thinketh no evil." His wife looked more hopeful, and he, poor man, began to *admit* that all humanity except *himself* are not hypocrites. As I reached my destination he said something more about the Bible being the work of man. As I extended my hand to him in parting I said, "Mr. Fiddler, do you think it was a human voice, and was it in a line with humanity as we find it all around us, that uttered the words, 'Love ye your enemies, do good to them that hate you, pray for them that despitefully use you and persecute you?' Don't these words savor more of God than of man? and does not the very thought, savor more of heaven than of earth?"

He smiled good-naturedly; and as I shook hands with them both I felt that my poor plea had not been altogether in vain; and as I walked down the lane to another bee-keeper's home, it was not altogether the hum of the bees above my head that made me feel buoyant, joyous, hopeful, and happy.

"Thou shalt not bear false witness against thy neighbor."

\* The man who has no faith, either in God, his neighbor, or his country, is but a step away from anarchy.

### SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

A VISIT TO J. M. SMITH, OF GREEN BAY, WIS.

**D**EAR friends, since I last wrote you I have made a visit to J. M. Smith, of Green Bay, Wis., the great horticulturist and market gardener of the State.

All that I saw that was interesting to me during that half-day would almost make a book. Friend Smith has 40 acres of land under the highest state of cultivation, and now covered with wonderful crops of vegetables and small fruits. He keeps an accurate account of his daily receipts, and these have been averaging for the past few weeks just about \$100 a day. Of course, he employs a large amount of labor—perhaps 30 or 40 full grown men; then there are enough boys to make quite a little Sunday-school, especially if we include the girls also, who were picking berries. Friend Smith first began on a single acre. His growth and progress were, as it usually is, by easy steps. When he made a single acre produce great nice crops, another acre was added to it, and so on. His first step was to thoroughly underdrain his ground. His soil is not naturally good—not as good, perhaps, as yours and mine; but it was all he had, and he started out to make the best of it. His ground is so near on a level with Lake Michigan that he can not, by doing his best, get a fall of more than one inch to every hundred feet of tile; therefore you may be sure the underdraining was carefully done.

Now, besides the careful underdraining I was agreeably surprised that friend Smith has decided just as I have done, that we need surface draining also. The underdrains are about two rods apart, and right over them he has surface drains through all his 40 acres. This makes his ground in beds about two rods wide. These beds are highest in the middle, and slope gradually toward the surface drains. The surface drains are so shallow the cultivator or loaded wagon crosses them without difficulty. During the present season, when we have had such excessive rainfalls, I knew our ground was injured by becoming so saturated with water that it settled down just about as hard as it was before it was plowed. It was worth my whole trip to Green Bay to satisfy myself on this single point of surface drainage as well as underdrainage. Of course, the crops were all in long rows parallel with these surface drains.

Considerable has been said about cropping ground continuously, without seeding it down and turning under the sod. Even Peter Henderson recommends that market-gardens be rested occasionally. Now, friend Smith does nothing of the sort. In fact, he says he could by no manner of means spare his expensive highly manured ground for a crop of clover only to be turned under. Although his season is so much shorter than ours, he gets two and often three crops on the same ground every season. For instance: On his first acre of ground (which was so mellow and rich one could kick his foot down six inches or more, almost any-

where) I found young currant-bushes just commencing to bear. Between these, onions had been grown, and the boys had just pulled them, piling them in these shallow surface drains so as to be out of the way. Let me say, these shallow surface drains also make convenient narrow roads, or by-paths, for gathering the crops. Well, the great white onions were piled here in long winrows, where they could dry out; and just as soon as they were up, the ground was manured again, the manure cultivated and worked in with modern tools, then the celery was planted.

Friend Smith plants celery or cabbages when he gets ready, no matter whether it rains or not. The hottest day I have experienced this season was Thursday, July 18; and during this day, friend S. with his boys set out about two acres of cabbage-plants. While I was wondering that they dared to set them out during such a fierce heat, one of the boys came up and suggested that it would be only a waste of time and shoe leather to replace what cabbages had died. None of them died worth speaking of. I expressed a curiosity to see how it was done. While friend S. has never had facilities for irrigation to any great extent, he has a tank and windmill. The tank would hold perhaps 200 barrels. In different places on his ground are hydrants covered by square wooden boxes. When transplanting celery or cabbages during very dry weather, a common iron pipe, perhaps 200 or 300 feet long, is attached to the hydrant, and carried along these surface drains. Then a hose, perhaps 100 feet long, is attached to the iron pipe. By means of the iron pipe and hose, barrels of water stationed all along the paths (or, rather, surface drains) are readily filled with water. Then the small boys, by means of watering-cans, put a pint or quart of water in the hole where each cabbage-plant is to be placed. The plant is then put in, then some soft dry earth pulled over the wet surface, to prevent baking. In this nice, rich, highly manured soil, cabbage-plants take right hold, and grow, rain or no rain; and the same way with celery. Wagon-roads go through the grounds at intervals, and baskets and wheelbarrows bring the products along the paths I have mentioned, to the wagon.

Another thing about these surface-drain paths: I was told that I could hardly find a weed on friend Smith's whole 40 acres. Our good friend was obliged to own up, however, that, during the past season, the excessive rains had made the ground so wet many times, at the same time making the weeds grow so fast, he had got behind, like many of the rest of us. The weeds, however, were being rapidly cleaned out. They were all thrown into these surface drain paths, then pitched into carts and carried to the compost heaps in various parts of the grounds. I did not see any weeds going to seed, and I presume that none were allowed to mature. On one piece of ground I saw about 3000 currant-bushes. Each bush was an extra-fine one, about like a *few* you have seen and can remember.

On this extra highly manured and well-



drained ground, the currants were of immense size, and bush after bush was bending with its beautiful load of fruit. Why, I should not be surprised if they got almost a whole bushel from some of the bushes. They were far enough apart so that they had sun and air enough to ripen thoroughly. His crop of strawberries was about 250 bushels per acre; but he plants the old kinds, the Wilson and Crescent.

With his soil and his method, the new kinds do not answer so well. In talking about underdraining, where you can get a fall of only one inch in 100 feet, I asked him if he had a scientific engineer to lay out the work.

"Not at all," said he; and he added, "whatever you do, do not ever get a scientific engineer to help you lay your under-drains."

He manages a good deal as Terry does. He gets down into the ditch, and lays the tile himself; and, if I am not mistaken, he pours water into all the ditches to be sure that it will run off before he lays the tile.

Of course, he keeps quite a number of pigs to consume the refuse; and I was very much pleased to find that he had been keeping cabbage refuse in a *silo*. All the leaves left where the heads are gathered, and all the poor or immature heads, are put into this *silo*; and he showed me a fine sow that he said had had nothing else for months but cabbage from the *silo*. This cabbage was put away last fall.

I do not remember now how many horses he keeps; but there are something like a dozen. He also has some fine cows. His stables are as neat and clean as any I have ever visited.

Green peas is one of his special crops; but when the market will not pay him a certain price, the vines are cleared from the ground, and peas, vines and all, are given to his pigs, and so with almost every crop. In order to have enough to supply the demand, he often raises fine crops to go into the compost heap or to the pigs. For instance, I saw a fine bed of Henderson's New York lettuce—beautiful, crisp, large-sized heads; but as lettuce is very perishable, and there is no market for it just now, he said the whole crop must go at once into the compost heap. Of course, such things do not happen very often; but it is better for the market-gardener to have too much than not enough. I shall in future touch upon incidents of my visit, probably, quite often.

July 29.—At the present writing, the Henderson lima beans are making nice little pods in great abundance. I am sorry to say that two or three of the Kumerles are going up the poles lively. The most of them, however, behave considerably like the Henderson bush lima.

The boys sold all the berries at good prices in my absence; and now there is a good demand for something for pies. A currant-plantation, such as I saw at friend Smith's would be a big investment in Medina just now. We are getting 12 cents a quart for blackberries, and the market is not half supplied. We need four times as many as we have now. Green apples for

making pies would also be a fine thing if we had them.

Notwithstanding the repeated rains there is an excellent demand for all kinds of garden stuff. The Stratagem peas and wax beans still sell readily at 40 cents a peck. Where people once become acquainted with Stratagem peas there will be a good demand for them all summer long. This season our Stratagems are true to name. We have not found a bogus one among them.

#### GARDENING FOR AUGUST.

I have before mentioned the sad sight that most of the gardens presented that passed under my eye during my recent trip. Many of the lawns and front yards were beautiful to behold; but the back yard and vegetable-garden, whenever the railroad gave us a view of them—oh my! what a sight! Faded, wilted, and useless crops; weeds; pea-vines and potato-tops, and every thing else that was displeasing to the sight, seemed to be the rule. In a few places I saw the refuse cleaned up, and neat bright-green rows of celery taking their place. But these were the exception and not the rule. At Green Bay, in the vicinity of friend Smith's wonderful work, there was a different order of things. Such a man's example is contagious; and in front of the stores and groceries of Green Bay I saw the neatest assortment of garden vegetables I ever saw anywhere. The sight would have done credit to the market places of our great cities early in the morning.

Now, friends, it will pay you just as well to make garden in August as it will to make it in April and May. Let us see what can be done with the ground now cumbered with weeds where your early peas, potatoes, and other crops have been growing. Celery is always in order under such circumstances. A nice strawberry garden in July and August is a thing of beauty, and I saw just such a one at Boscobel, Wis. It belonged to one of our bee-men, and I believe he bought the plants of A. I. Root. If you have water at your command you can put out asparagus roots in August. You can sow the seeds, any way. Purple-top Globe turnips, or White Egg, are seldom without a purchaser. Now is the time to sow the seed. Wax beans, in our locality, will give a good crop if we have the usual amount of rain. The Eclipse beets will also make nice beets for the table, and most markets will use a large amount of them. If you have very strong large plants of Jersey Wakefield cabbage, if set now in the ground with plenty of manure, they will make nice heads before winter. Early carrots also usually do fairly when sown the first of August. Corey's Extra Early corn may make roasting-ears, if we have plenty of rain and a warm fall. If it does not, it will pay cost for fodder for your cow. Cress usually does nicely if sown now. Cucumbers for pickles rarely fail when put in by the first of August, and you may fill your whole garden with these and do well. Most kinds of lettuce will give a good crop late in the season, if sown now. Onion seed for onions for bunching, or onion-sets, if there is plenty of rain, will also answer. If you did not get

out your *Egyptian* onion-sets in July, they will do almost as well if put out now. Parsley will be right for winter, if sown in August. Alaska, or American Wonder peas will probably give at least a few before frost. All kinds of radishes, and especially the winter radishes, will give a crop. Spinaach is just in time to make large bushy heads, without running to seed; and it will usually stand without protection until Christmas or later.

There, haven't I made out a pretty good list for gardening, for the month of August? Now, you can have your choice—a nice beautiful garden where every thing grows from the word "go," or an unsightly crop of weeds and rubbish. The seeds of the weeds (if the latter are allowed to go to seed) will make you trouble as long as you live on the place. If you do not do any thing else, mow them down or cut them off with a scuffle-hoe, and burn them up. Kill the weeds, even if you do not raise a nice crop.

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## GLEANINGS IN BEE CULTURE.

*Published Semi-Monthly.*

A. I. ROOT,  
EDITOR AND PUBLISHER,  
MEDINA, OHIO.

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For Clubbing Rates, See First Page of Reading Matter.

MEDINA, AUG. 1, 1889.

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In my Father's house are many mansions: if it were not so, I would have told you.—JOHN 14:2.

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WE have 8939 subscribers.

### THE HONEY FLOW.

WE had a slight flow from basswood. It was good while it lasted, but ceased abruptly after three or four days, and then robbers began to make their unwelcome appearance.

### A POINTER FOR EXTRACTED-HONEY PRODUCERS.

SQUARE cans are now actually cheaper than new kegs or barrels, and the return freight no higher than on kegs. Remember, the cans are adapted for any climate, and they do not shrink or swell like the wooden packages.

### HONEY FROM RED CLOVER.

HONEY is coming in again (July 31st), this time from red clover. In the supers of some of the stronger colonies, the bees have begun to store honey. With the amount of rain we have been having we may get something from this source.

J. M. JENKINS.

WE have had a very pleasant visit from J. M. Jenkins, Wetumpka, Elmore Co., Ala. He represents our establishment in the South, and reports an unusually good year for bees. Friend Jenkins is alive to the bee-keeping interests of the South, and no doubt has done as much, or more than any other man for the advancement of modern apiculture in Dixie.

### MUCH ADO ABOUT BEES.

OUR correspondence has grown at such a rate that our *letter postage alone* now costs us, on a close estimate, \$1000 per year, to say nothing of the cost of stationery and printing, directing, etc. Verily, there is much ado about bees in other ways than through the medium of conventions and bee-journals, and it will take more than falsehoods about manufactured comb honey to squelch it.

### SEASONABLE "LOOK OUTS."

LOOK out for robbers. Look out and don't leave a comb of honey leaning against the hive over night, nor a cover not tightly fitting. Look out for that honey-house door. Put a sign on it in big letters, YOU SHUT THE DOOR. Look out for the entrances of small nuclei. Look out when robbers get started while you are working over a hive. Close up and go to another part of the apiary. Lastly, take a lookout over the apiary to see if all is well. Leaving a comb outside by mistake, may result in a horse being stung, and the loss of the horse, or, possibly, the loss of human life may follow. I have just had a tussle with "old Charlie," because one of the boys left a comb leaning against a chaff hive over night.

### BEE-KEEPING NOT A NUISANCE.

OUR co-worker, Thomas G. Newman, of the *American Bee Journal*, Chicago, Ill., has gotten out a pamphlet relating to the Z. A. Clark case, in Arkadelphia, Ark., entitled "Bee-keeping Not a Nuisance." The whole history of the case is given in full. Those who desire full information on the subject can obtain this pamphlet free of charge, either of us or by applying to the editor of the *American Bee Journal*, as above. Inquiries still come in as to how to join the Bee-keepers' Union, the entrance fees, etc. The entrance fee is \$1.00, and that pays for the dues for the unexpired year. The annual dues are \$1.00, and must be paid within six months to retain membership. The fees and dues must be sent directly to the General Manager, T. G. Newman, 925 West Madison St., Chicago, Ill., who will record the names and send receipts.

### MY TRIP TO WISCONSIN.

I REACHED home on Thursday, July 25, after an absence of just two weeks. There are many things I should like to tell you all at once, but I have thought best to preserve them for future issues. I will say this, however, that the basswood yield of Richland Co., Wis., was fully up to all that it has been represented. The day I visited friend Freeborn, he brought in a load of 1800 lbs. of honey, and his boys brought in from another apiary, the same day, 1400 lbs. If I am correct, this yield was from less than 500 colonies, and was all gathered in about three days. Friday morning the hives extracted first were full again, and the boys were at work extracting when I came away. I am told that they never have poor seasons in Richland County—that is, there is always at least a fair crop of honey. They have had trouble in wintering, however, like the rest of us; but they seem to have got pretty well the upper hand of it now.

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## Italian and Carniolan Queens.

Thirty years a queen dealer. Prices low. Circular free. HENRY ALLEY, Wenham, Mass.



## HEADQUARTERS IN THE WEST

FOR THE MANUFACTURE AND SALE OF

### Bee-Keepers' Supplies.

CHAFF AND SIMPLICITY HIVES FURNISHED  
AT A GREAT REDUCTION IN PRICE.

A full line of supplies always on hand. Also Italian queens and bees at a very low price. Send for large illustrated price list. 1-23d

**A. F. Stauffer, Sterling, Ill.**

In responding to this advertisement mention GLEANINGS.

## CARNIOLAN QUEENS A SPECIALTY.

Largest and Purest Carniolan Apiary in America. Send for descriptive circular and price list. Address **ANDREWS & LOCKHART,**

3tfd Pattens Mills, Washington Co., N. Y.

In responding to this advertisement mention GLEANINGS.

**AN OLD BEE BOOK REVISED, and DADANT'S FOUNDATION.**  
See advertisement in another column.

**ITALIAN QUEENS at August Prices now.**  
Untested, 75c; tested, \$1.25; select tested, \$2.00.  
Satisfaction guaranteed. **E. W. TURNER, Medina, Ohio.**

## A Four-Color Label for Only 75 Cts. Per Thousand!

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts. per thousand; 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2½ x 1 inch—just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

**A. I. ROOT, Medina, O.**

## THE ABC OF CARP CULTURE

A COMPLETE TREATISE

Upon the Food Carp and its Culture.

INCLUDING PLANS AND SPECIFICATIONS, AND FULLEST  
INSTRUCTIONS FOR THE CONSTRUCTION OF PONDS,  
AND EVERY THING PERTAINING TO THE  
BUSINESS OF RAISING CARP FOR FOOD.

Illustrated by Many Fine Engravings.

By A. I. Root and George Finley.

PRICE: 35 Cts.; by Mail, 40 Cts.

**A. I. ROOT, Medina, O.**

## Cash for Beeswax!

Will pay 23c per lb. cash, or 26c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 30c per lb., or 33c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

**A. I. ROOT, Medina, Ohio.**

IF YOU ARE IN WANT OF

## BEES or BEE-KEEPERS' SUPPLIES,

Send for our New Catalogue.

**OLIVER HOOVER & CO.,**  
Snydertown, Pa.

4tfdb

## I AM AWAITING YOUR ORDER FOR 3-FRAME NUCLEI.

Price, with untested queen, \$3.00. Best tested queen, \$4.00; 2-frame nuclei, 50 cts. less. Combs straight and true; all worker comb, and bees finest of Italians. One untested queen, \$1.00; 6 for \$5.00. Best tested, \$2.50 each.

**JNO. A. THORNTON,**

Exp. Office, Ursa, Ill.

Lima, Ill.

Mention GLEANINGS.

12-17db

## PASTEBOARD BOXES,

Or Cartons, for One-Pound Sections.



Bee-keepers are realizing more and more the value of these cartons for putting their comb honey in marketable shape. Other articles of home consumption are put up in a neat attractive way, and in shape to be handed to the customer, and carried safely without wrapping. Why not sections of comb honey, especially when the cost of the boxes is so low?

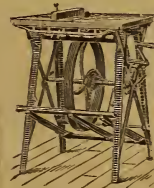
TABLE OF PRICES OF 1-LB. SECTION CARTONS.

Name or designation.	Price of 1	25	100	500	1000
1-lb. carton, plain.	2	.20	.60	2.75	5.00
1-lb. carton, printed one side, name and address.			.90	3.50	6.00
1-lb. carton, printed on both sides, name and address.			1.00	3.75	6.50
1-lb. carton, with lithograph label one side.	3	.30	1.00	4.50	8.50
1-lb. carton, with lithograph label on both sides.	3	.40	1.30	6.25	12.00
1-lb. carton, with lithograph label one side, name printed.			1.30	5.25	9.50
1-lb. carton, with lithograph label, printed with name on both sides.			1.70	7.25	13.50
Lithograph labels, 2 designs, for 1-lb. cartons.			.35	1.60	3.00

If sent by mail, postage will be 2 cts. each; or in lots of 25 or more, 1 cent each. All the above have tape handles. Price, without tape handles, 5c per 100, or 50c per 1000 less. The quality of the boxes is fair, being made of strawboard, plated outside. If more than 1000 are wanted, write for prices.

**A. I. ROOT, MEDINA, O.**

## Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N. Y., says — "We cut with one of your Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it all with this Saw. It will do all you say it will."

Catalogue and Price List Free. Address W. F. & JOHN BARNES, 545 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. **A. I. ROOT.**  
23tfd

## VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.

1tfd **JNO. VANDERVORT, Laceyville, Pa.**

